

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**RESONAC HARD DISK CORPORATION
and RESONAC CORPORATION,**

Petitioners

v.

MR TECHNOLOGIES GMBH,

Patent Owner

Case No. IPR2026-00015
U.S. Patent No. 11,138,997

DECLARATION OF SYLVIA HALL-ELLIS, PH.D.

I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert on behalf of Resonac Hard Disk Corporation and Resonac Corporation (“Resonac”).

2. I have written this Declaration on behalf of Resonac to provide my expert opinion regarding the authenticity and public availability of several publications. My Declaration sets forth my opinions in detail and provides the basis for my opinions regarding the public availability of these publications.

3. I reserve the right to supplement or amend my opinions, and bases for them, in response any additional evidence, testimony, discovery, argument, and/or other additional information that may be provided to me after the date of this Declaration.

4. I am being compensated for my time spent working on this matter at my normal consulting rate, plus reimbursement for any additional reasonable expenses. My compensation is not in any way tied to the content of this Declaration, the substance of my opinions, or the outcome of this litigation. I have no other interests in this proceeding or with any of the parties.

5. All of the materials that I considered are discussed explicitly in this declaration.

II. QUALIFICATIONS

6. I am currently an Adjunct Professor in the School of Information at San José State University. I obtained a Master of Library Science from the University of North Texas in 1972 and a Ph.D. in Library Science from the University of Pittsburgh in 1985. Over the last 50-plus years, I have held various positions in the field of library and information resources. I was first employed as a librarian in 1966 and have been involved in the field of library sciences since, holding numerous positions.

7. I am a member of the American Library Association (ALA) and its Association for Library Collections & Technical Services (ALCTS) Division, and I served on the Committee on Cataloging: Resource and Description (which wrote the new cataloging rules) and as the chair of the Committee for Education and Training of Catalogers and the Competencies and Education for a Career in Cataloging Interest Group. I also served as the Chair of the ALCTS Division's Task Force on Competencies and Education for a Career in Cataloging. Additionally, I have served as the Chair for the ALA Office of Diversity's Committee on Diversity, as a member of the REFORMA National Board of Directors, as a member of the Editorial Board for the ALCTS premier cataloging journal, *Library Resources and Technical Services*, as a Co-Chair of the Library Research Round Table (LRRT) for the American Library Association, and as a

member of the LRRT Nominating Committee. Currently I serve as a Member of the CORE Margaret Mann Citation Committee and as a Member of the CORE Awards & Scholarship Coordination Committee.

8. I have also given over one hundred presentations in the field, including several on library cataloging systems and Machine-Readable Cataloging (“MARC”) standards. My current research interests include library cataloging systems, metadata, and organization of electronic resources.

9. My full curriculum vitae is attached hereto as Exhibit 1034.

III. PRELIMINARIES

10. *Scope of this declaration.* I am not an attorney and will not offer opinions on the law. I am, however, rendering my expert opinion on the authenticity of the documents referenced herein and on when and how each of these documents was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, could have located the documents before on or around the listed dates of their respective publications below.

11. I am informed by counsel that a printed publication qualifies as publicly accessible as of the date it was disseminated or otherwise made available such that a person interested in and ordinarily skilled in the relevant subject matter could locate it through the exercise of ordinary diligence.

12. While I understand that the determination of public accessibility under the foregoing standard rests on a case-by-case analysis of the facts particular to an individual publication, I also understand that a printed publication is rendered “publicly accessible” if it is cataloged and indexed by a library such that a person interested in the relevant subject matter could locate it (*i.e.*, I understand that cataloging and indexing by a library is sufficient, though there are other ways that a printed publication may qualify as publicly accessible). One manner of sufficient indexing is indexing according to subject matter category. I understand that the cataloging and indexing by a single library of a single instance of a particular printed publication is sufficient, even if the single library is in a foreign country. I understand that, even if access to a library is restricted, a printed publication that has been cataloged and indexed therein is publicly accessible so long as a presumption is raised that the portion of the public concerned with the relevant subject matter would know of the printed publication. I also understand that the cataloging and indexing of information that would guide a person interested in the relevant subject matter to the printed publication, such as the cataloging and indexing of an abstract for the printed publication, is sufficient to render the printed publication publicly accessible.

13. I understand that routine business practices, such as general library cataloging and indexing practices, can be used to establish an approximate date on which a printed publication became publicly accessible.

14. *Persons of ordinary skill in the art.* I am told by counsel that the subject matter of this proceeding generally relates to magnetic recording media.

15. I have been informed by counsel that a “person of ordinary skill in the art at the time of the inventions” is a hypothetical person who is presumed to be familiar with the relevant field and its literature at the time of the inventions. This hypothetical person is also a person of ordinary creativity, capable of understanding the scientific principles applicable to the pertinent field.

16. I am told by counsel that persons of ordinary skill in this subject matter or art would have had at least a master’s degree in Physics, Materials Science, or Electrical Engineering with at least two years training or experience with magnetic recording, such as hard disk drives.

17. It is my opinion that such a person would have been engaged in research, learning through study and practice in the field and possibly through formal instruction the bibliographic resources relevant to his or her research. In the 2006 timeframe, and for several years prior, such a person would have had access to a vast array of long-established print resources in the field of research, design, development and/or testing of magnetic recording media.

IV. LIBRARY CATALOGING PRACTICES

A. MARC RECORDS AND THE ONLINE LIBRARY CATALOG

18. I am fully familiar with the library cataloging standard known as the MARC standard, which is an industry-wide standard method of storing and organizing library catalog information.¹ MARC was first developed in the 1960s by the Library of Congress. A MARC-compatible library is one that has a catalog consisting of individual MARC records for each of its items. Today, MARC is the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.

19. MARC is a framework into which descriptive bibliographic data are transcribed to interact with the software in online library catalogs to provide access to books, journals, and other resources in the collection. The bibliographic data provide points of access and can be searched by a person of ordinary skill in the art (POSA) at the time of the invention to identify and obtain resources in the library collection. An information seeker (or POSA) can search a local online library catalog or the holdings of a group of libraries in a state or region or in the global catalog WorldCat.

20. MARC records are not designed for public viewing. Although a

¹ The full text of the standard is available from the Library of Congress at <http://www.loc.gov/marc/bibliographic/> (last visited September 29, 2025).

significant number of libraries provide access to the MARC version of a bibliographic record, the public display is designed to show information in a succinct manner that is quickly understood and useful to the information seeker. Libraries determine the default search for the online catalog to make the entry of search terms efficient and result in a successful search. Information seekers can enter a keyword, title, author, or standard number for the item. Libraries may also provide a search capability called “Summon” that allows the information seeker to enter known information about the item to conduct a search.

21. Since at least the early 1970s and continuing to the present day, MARC has been the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.² As explained by the Library of Congress:

You could devise your own method of organizing the bibliographic information, but you would be isolating your library, limiting its options, and creating much more work for yourself. Using the MARC standard prevents duplication of work and allows libraries to better share bibliographic resources. Choosing to use MARC

² A complete history of the development of MARC can be found in *MARC: Its History and Implications* by Henrietta D. Avram (Washington, DC: Library of Congress, 1975) and available online from the Hathi Trust (<https://babel.hathitrust.org/cgi/pt?id=mdp.39015034388556;view=1up;seq=1>; last visited September 29, 2025).

enables libraries to acquire cataloging data that is predictable and reliable. If a library were to develop a “home-grown” system that did not use MARC records, it would not be taking advantage of an industry-wide standard whose primary purpose is to foster communication of information.

Using the MARC standard also enables libraries to make use of commercially available library automation systems to manage library operations. Many systems are available for libraries of all sizes and are designed to work with the MARC format. Systems are maintained and improved by the vendor so that libraries can benefit from the latest advances in computer technology. The MARC standard also allows libraries to replace one system with another with the assurance that their data will still be compatible.

Why Is a MARC Record Necessary? LIBRARY OF CONGRESS.³

22. Thus, almost every major library in the world is MARC-compatible. See, e.g., *MARC Frequently Asked Questions (FAQ)*, LIBRARY OF CONGRESS.⁴ (“MARC is the acronym for MACHine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative that began fifty years

³ <http://www.loc.gov/marc/umb/um01to06.html#part2>

⁴ <https://www.loc.gov/marc/faq.html>

ago. It provides the mechanism by which computers exchange, use, and interpret bibliographic information, and its data elements make up the foundation of most library catalogs used today.”). MARC is the ANSI/NISO Z39.2-1994 standard (reaffirmed in 2016) for Information Interchange Format. The full text of the standard is available from the Library of Congress.⁵

23. Examining the MARC records for a specific item reveals the comprehensive data transcribed about a particular item at the time that cataloging and classification occurred. In addition to the creator, title, subjects, and standard numbers, additional information may provide additional and relevant data depending on the type of resource. Understanding the full extent of bibliographic data for an item and the points of access associated with it provides essential information that can be used to determine the indexing and public availability for documents described in this declaration.

B. MARC RECORDS

24. A MARC record comprises several fields, each of which contains specific data about the work. Each field is identified by a standardized, unique, three-digit code corresponding to the type of data that follow. For example, a work’s title is recorded in Field 245; the primary author of the work is transcribed in Field 100; an item’s International Standard Book Number (“ISBN”) consisting

⁵ <http://www.loc.gov/marc/bibliographic/>

of ten or thirteen digits is transcribed in Field 020; an item's International Standard Serial Number ("ISSN") is transcribed in Field 022; the Library of Congress classification notation is recorded in Field 050; and the publication date is recorded in Field 260 under the subfield "c" (or 264\$c in newer records). If a work is a periodical, then its publication frequency is recorded in Field 310, and the publication dates (e.g., the first and last publication) are recorded in Field 362, which is also referred to as the enumeration/chronology field.⁶

25. The library that created the record is recorded in Field 040 in subfield "a" with a unique library code. When viewing the MARC record online via Online Computer Library Center's ("OCLC") bibliographic database, hovering over this code with the mouse reveals the full name of the library. I used this method of "mousing over" the library codes in the OCLC database to identify the originating library for the MARC records discussed in this Declaration. Where this "mouse over" option was not available, I consulted the Directory of OCLC Libraries to identify the institution that created the MARC record.⁷

26. MARC records also include several fields that include subject matter classification information. An overview of MARC record fields is available

⁶ <http://www.loc.gov/marc/bibliographic/bd3xx.html>

⁷ <https://www.oclc.org/en/contacts/libraries.html>

through the Library of Congress.⁸ For example, 6XX fields are termed “Subject Access Fields.”⁹ Among these, for example, is the 650 field; this is the “Subject Added Entry – Topical Term” field.¹⁰ The 650 field is a “[s]ubject added entry in which the entry element is a topical term.” These entries “are assigned to a bibliographic record to provide access according to generally accepted thesaurus-building rules (e.g., *Library of Congress Subject Headings* (LCSH), *Medical Subject Headings* (MeSH)).” *Id.* Further, MARC records include call numbers, which themselves include a classification number. For example, the 050 field is the “Library of Congress Call Number.”¹¹ A defined portion of the Library of Congress Call (LCC) Number is the classification number, and “source of the classification number is *Library of Congress Classification* and the *LC Classification-Additions and Changes*.” Thus, included in the 050 field is a subject matter classification. Further, the 082 field is the “Dewey Decimal Call Number.”¹² A defined portion of the Dewey Decimal Call (DDC) Number is the classification number, and “source of the classification number is the *Dewey Decimal Classification and Relative Index*.” Thus, included in the 082 field is a subject

⁸ <http://www.loc.gov/marc/bibliographic/>

⁹ <http://www.loc.gov/marc/bibliographic/bd6xx.html>

¹⁰ <http://www.loc.gov/marc/bibliographic/bd650.html>

¹¹ <http://www.loc.gov/marc/bibliographic/bd050.html>

¹² <http://www.loc.gov/marc/bibliographic/bd082.html>

matter classification. Each item in a library has a single classification number. A library selects a classification scheme (*e.g.*, the Library of Congress classification scheme just described or a similar scheme such as the Dewey Decimal classification scheme) and uses it consistently. When the Library of Congress assigns the LCC classification number, it appears as part of the 050 field. When the Library of Congress assigns the DDC classification number, it appears as part of the 082 field. If a local library assigns the classification number, it appears in a 090 field. In either scenario, the MARC record includes a classification number that represents a subject matter classification.

C. OCLC

27. The OCLC was created “to establish, maintain and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide processes and products for the benefit of library users and libraries, including such objectives as increasing availability of library resources to individual library patrons and reducing the rate of rise of library per-unit costs, all for the fundamental public purpose of furthering ease of access to and use of the ever-expanding body of worldwide scientific,

literary and educational knowledge and information.”¹³ Among other services, OCLC and its members are responsible for maintaining the WorldCat database (<http://www.worldcat.org/>), used by independent and institutional libraries throughout the world.

28. OCLC also provides its members online access to MARC records through its OCLC bibliographic database. When an OCLC member institution acquires a work, it creates a MARC record for this work in its computer catalog system in the ordinary course of its business. MARC records created at the Library of Congress are tape-loaded into the OCLC database through a subscription to MARC Distribution Services daily or weekly. Once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress, the MARC record is then made available to any other OCLC members online, and therefore made available to the public. Accordingly, once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress or another library anywhere in the world, any publication corresponding to the MARC record has been cataloged and indexed according to its subject matter such that a person interested in that subject matter

¹³ Third Article, Amended Articles of Incorporation of OCLC Online Computer Library Center, Incorporated (available at <https://www.oclc.org/content/dam/oclc/membership/articles-of-incorporation.pdf>).

could, with reasonable diligence, locate and access the publication through any library with access to the OCLC bibliographic database or through the Library of Congress.

29. When an OCLC member institution creates a new MARC record, OCLC automatically supplies the date of creation for that record. The date of creation for the MARC record appears in the fixed Field (008), characters 00 through 05. The MARC record creation date reflects the date on which the item was first acquired or cataloged. Initially, Field 005 of the MARC record is automatically populated with the date the MARC record was created in year, month, day format (YYYYMMDD) (some of the newer library catalog systems also include hour, minute, second (HHMMSS)). Thereafter, the library's computer system may automatically update the date in Field 005 every time the library updates the MARC record (*e.g.*, to reflect that an item has been moved to a different shelving location within the library). The date upon which the most recent update to Field 005 occurred also appears.

30. Once one library has cataloged and indexed a publication by creating a MARC record for that publication, other libraries that receive the publication do not create additional MARC records—the other libraries instead rely on the original MARC record. They may update or revise the MARC record to ensure accuracy, but they do not replace or duplicate it. This practice does more than save

libraries from duplicating labor. It also enhances the accuracy of MARC records. Further, it allows librarians around the world to know that a particular MARC record is authoritative (in contrast, a hypothetical system wherein duplicative records were created would result in confusion as to which record is authoritative).

31. Catalogers can create MARC records for all types of print, online, and digital resources. The date of creation of the MARC record by a cataloger at an OCLC member institution reflects when the underlying item is accessible to the public. Upwards of two-thirds to three-quarters of book sales and magazine subscriptions to libraries come from a jobber or wholesaler for online and print resources. These resellers make it their business to provide items to their customers as fast as possible, often providing turnaround times of only a single day after publication. Libraries purchase a significant portion of the balance of their books and journals directly from publishers themselves, which provide delivery on a similarly expedited schedule. In general, libraries make these purchases throughout the year and shelve the newly received items as soon thereafter as possible to make them available to their patrons.

32. *Journals.* Catalogers can create MARC records for all types of print, online, and digital resources. For example, MARC records cover serial publications, including both serially-published monographs and journals. OCLC hosts more than 320 million bibliographic records, including serial publications.

Serial publications are those publications that have the same collective title but are intended to be continued indefinitely with enumeration such as a volume or issue number (*e.g.*, magazines, journals, etc.). In the OCLC bibliographic database, the first issue of the serial publication is typically cataloged (*i.e.*, a corresponding MARC record is created), but the date is left open-ended with the use of a punctuation mark such as a dash. OCLC serial publication MARC records represent the entire run of the serial title. With knowledge of the first issue published, future issues can be predicted based on the information provided in the MARC record, for example in field 362. In my extensive professional experience, is it highly unusual for a library to stop collecting and shelving a serial publication prior to the end of its publication run. If a subscription to a serial publication ends its run or is cancelled before the end of its run, the library will denote that it has stopped receiving new volumes by filling in the end date in the MARC record.

33. The handling of printed journal subscriptions is shown on the cover or the first few pages of individual issues. As was the best practice among libraries, issues arrived at a central facility and were immediately received, verified as part of a subscription, checked in, and stamped or labeled with the institution's name and date. Determining that the issue was part of the library subscription ensured that the entire set of publications for the year had been received so that they could be professionally bound and retained. This process also verified that all of the

published issues arrived so that the library staff did not have to request or claim an issue that did not arrive as expected. In large public libraries with branches and multi-campus libraries within academic institutions, the journals were sorted and delivered to the subscribing unit. The new issue was placed in the public area; the older issue was stored so that it remained available.

34. The foregoing process has been standard library practice longer than I have been working in the profession. I first learned the steps in the process in the late 1970s and later supervised it. Although the checking in process has become automated and now links electronically to holdings records for the MARC record for each serial title, the manual placement of a stamp or label and placing the issue in a public area has not changed for 50 years. Unless I note otherwise below in reference to a specific serial publication, it is my expert opinion that this standard protocol was followed for all of the serial publications discussed below.

35. In preparing this Declaration, I used authoritative databases, such as the OCLC bibliographic database and the Library of Congress Online Catalog, to confirm citation details of the various publications discussed.

36. *Indexing.* A researcher may discover material relevant to his or her topic in a variety of ways. One common means of discovery is to search for relevant information in an index of periodical and other publications. Having found relevant material, the researcher will then normally obtain it online, look for

it in libraries, or purchase it from a publisher, a bookstore, a document delivery service, or other provider. Sometimes, the date of a document's public accessibility will involve both indexing and library date information. However, date information for indexing entries is often unavailable. This is especially true for online indices.

37. Indexing services use a wide variety of controlled vocabularies to provide subject access and other means of discovering the content of documents. The formats in which these access terms are presented vary from service to service.

38. Online indexing services commonly provide bibliographic information, abstracts, and full-text copies of the indexed publications, along with a list of the documents cited in the indexed publication. These services also often provide lists of publications that cite a given document. A citation of a document is evidence that the document was publicly available and in use by researchers no later than the publication date of the citing document.

39. Before the widespread development of online databases to index articles in journals, magazines, conference papers, and technical reports, libraries purchased printed volumes of indices. Graduate library school education mandated that students learn about the bibliographic control of disciplines, the prominent indexing volumes, and searching strategies required to use them effectively and efficiently. Half of the courses that I studied in library school were focused on the

bibliography and resources in academic disciplines.

40. Librarians consulted with information seekers to verify citations, check availability in union catalogs, printed books catalogs, the OCLC database, and make formal requests for materials (e.g., books, conference proceedings, journal articles). Requests were transmitted using Telex machines, rudimentary email systems, and the United States Postal Service. During my career, I have performed and supervised staff who handled these resource sharing tasks.

41. A major firm known for the breadth of subjects and comprehensive treatment in the preparation of index volumes, the H. W. Wilson Company offered these reference resources since the firm was founded in 1898. The *Reader's Guide to Periodical Literature* is one of the best-known titles available from H. W. Wilson. Each volume includes a comprehensive index for 300 of the most popular and important periodicals published in the United States and Canada. Information seekers have subject access expressed in plain language terminology, author access, and cross references to find the desired results from their searches. The family of index titles included *Science & Technology Index*, *Business Periodicals*, *Applied Science & Technology Index*, *Humanities Index*, *Biological & Agricultural Index*, and *Industrial Arts Index*. These printed indices have been superseded by digital database offerings available to information seekers through Ebsco.

42. Online indexing services such as *Google Scholar*¹⁴ or *ScienceDirect*¹⁵ commonly provide bibliographic information, abstracts, and full-text copies of the indexed publications, along with a list of the documents cited in the indexed publication. These services also often provide lists of publications that cite a given document.

43. A citation of a document by another is evidence that the document was publicly available and in use no later than the publication date of the citing document.

V. DOCUMENT 1: EXHIBIT 1007 (“SHEN”)

44. Attached hereto as Exhibit 1007 is a copy of the journal article titled “Composite Perpendicular Magnetic Recording Media Using [Co / PdSi]_n as a Hard Layer and as a Soft Layer” by W. K. Shen, J. M. Bai, R. H. Victora, J. H. Judy, and Jian-Ping Wang (hereafter “Shen”). The Shen article was published in Volume 97, Issue 10 of the *Journal of Applied Physics* and was found in the King Library at San José State University (San José, California). The Shen article appears beginning on page 513-1 of this issue dated May 15, 2005. Exhibit 1007 is a true and correct copy of the Shen article (pages 513-1—513-3) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the

¹⁴ <https://scholar.google.com/>

¹⁵ <https://www.sciencedirect.com/>

article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Shen article is available from the publisher, AIP Publishing.¹⁶ The publisher lists a presentation date of November 11, 2004, and an online publication date of May 17, 2005. Exhibit 1007 is a true and correct copy in a condition that creates no suspicion about its authenticity.

45. Attached hereto as Attachment 1A is a true and correct copy of the MARC record for the *Journal of Applied Physics* from the King Library at San José State University online catalog. Library ownership is indicated by the presence of the code for the California State University System (“CSU”) in field 995. The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 1A occurred on September 11, 2024, as shown in field 005 (“20240911”). I personally identified and retrieved the MARC record that is Attachment 1A.

46. Based on finding a print copy of Exhibit 1007 in the King Library at San José State University and MARC record in its online library catalog attached as Attachment 1A, it is my opinion that the Shen article published in the *Journal of Applied Physics* was publicly available on May 17, 2005, as indicated on the

¹⁶ <https://pubs.aip.org/aip/jap/article-abstract/97/10/10N513/893363/Composite-perpendicular-magnetic-recording-media?redirectedFrom=fulltext>

publisher's website. Attachment 1A also shows that Exhibit 1007 was catalogued with a descriptor term reading "Physics \$vPeriodicals" (see Attachment 1B, Library of Congress subject heading sh2008109342) in the 650 field.

47. As noted in the holdings information (362 field), the King Library at San José State University has received the *Journal of Applied Physics* since January 1937 and continues to receive the publication. In view of the MARC record for Exhibit 1007, the Shen article was publicly available on May 17, 2005, because the serial title had been received, cataloged, and indexed in the King Library at San José State University and made part of its online catalog database.

48. Attached hereto as Attachment 1C is a true and correct copy of the MARC record for the *Journal of Applied Physics* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 1C, that library code is "MULS," which means that the MARC record for this serial was cataloged as part of the Minnesota Union List of Serials at the University of Minnesota Libraries (Minneapolis, Minnesota). As can be seen in field 008 ("Date entered on file") in the MARC record for this exhibit, a cataloger at the University of Minnesota Libraries created OCLC record number 1754449 on November 1, 1975 ("751101"). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 1C

occurred on September 20, 2025, as shown in field 005 (“20250920”). I personally identified and retrieved the MARC record that is Attachment 1C. The “BLvl” entry in Attachment 1C is “s,” which indicates that the *Journal of Applied Physics* is a serial publication. Field 310 of Attachment 1C reads “Semimonthly, \$b Jan. 1984-.” Accordingly, the MARC record for Exhibit 1007 corresponds to the *Journal of Applied Physics* from the time the serial title adopted the current title and includes the date of the Shen article.

49. Attachment 1C includes an entry in field 050 (“QC1 \$b .J83”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“530.5”), a subject matter consistent with the Dewey Decimal classification system. Attachment 1C includes a descriptor term reading “Physics \$v Periodicals” (see Attachment 1B, Library of Congress subject heading sh2008109342) in the 650 field. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 1C was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entry. As of November 1, 1975, the MARC record attached hereto as Attachment 1C was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the

corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

50. WorldCat indicates that the *Journal of Applied Physics* as cataloged at the University of Minnesota Libraries is currently available from 1,325 libraries.¹⁷ In view of the above, this issue of the *Journal of Applied Physics* was publicly available on May 17, 2005, because by that date it had been cataloged and indexed at the University of Minnesota Libraries, made part of the OCLC bibliographic database, and received in the King Library at San José State University. For these reasons, it is my opinion that Exhibit 1007 was published and accessible to the public on May 17, 2005.

VI. DOCUMENT 2: EXHIBIT 1009 (“DOBIN”)

51. Attached hereto as Exhibit 1009 is a copy of the journal article titled “Domain Wall Assisted Magnetic Recording” by Alexander Yu. Dobin and H. J. Richter (hereafter “Dobin”). The Dobin article was published in Volume 89, Issue 6 of the journal *Applied Physics Letters* and can be found in the Linda Hall Library of Science, Engineering & Technology (Kansas City, Missouri). I received Exhibit 1009 from counsel. The Dobin article appears beginning on page 62512-1 of this issue dated August 2006. Exhibit 1009 is a true and correct copy of the Dobin

¹⁷ <https://search.worldcat.org/title/1754449>

article (pages 62512-1—62512-3) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Dobin article is available from the publisher, AIP Publishing,¹⁸ which lists an online publication date of August 7, 2006, and the digital repository arXiv.¹⁹ Exhibit 1009 is a true and correct copy in a condition that creates no suspicion about its authenticity.

52. A pre-print of the Dobin conference paper was available on arXiv.org and publicly available as of May 16, 2006.²⁰ Hosted by Cornell University (Ithaca, New York), the arXiv digital open access research-sharing platform hosts more than two million scholarly articles in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics.²¹ Submissions to the arXiv digital repository

¹⁸ <https://pubs-aip-org.libaccess.sjlibrary.org/aip/apl/article/89/6/062512/119568/Domain-wall-assisted-magnetic-recording>

¹⁹ <https://arxiv.org/abs/cond-mat/0605368>

²⁰ <https://arxiv.org/abs/cond-mat/0605368>

²¹ <https://info.arxiv.org/about/index.html>

are given an identifier when the submission is publicly announced.²² The arXiv digital repository follows a scheduled announcement process, where submissions to the arXiv.org digital repository are publicly announced Sunday through Thursday at a set time (8 pm Eastern Standard Time).²³ Per the Announcement Schedule, articles submitted between Friday at 2 pm ET and Monday at 2 pm ET are publicly announced on Monday at 8 pm ET and mailed to subscribers on Monday night/Tuesday morning. Following the arXiv schedule, the Dobin pre-print conference paper was publicly available on May 16, 2006. Running a comparison program between the pre-print and published versions of the Dobin conference paper resulted in selected minor variations resulting from formatting styles but no substantive differences.

53. Attached hereto as Attachment 2A is a true and correct copy of the MARC record for the journal *Applied Physics Letters* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 2A, that library code is “DLC,” which means that the MARC record for this serial was cataloged at the Library of Congress. As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the Library of Congress created

²² https://info.arxiv.org/help/arxiv_identifier.html

²³ <https://info.arxiv.org/help/availability.html>

OCLC record number 1580952 on August 29, 1975 (“750829”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 2A occurred on September 19, 2025, as shown in field 005 (“20250919”). I personally identified and retrieved the MARC record that is Attachment 5A. The “BLvl” entry in Attachment 2A is “s,” which indicates that the journal *Applied Physics Letters* is a serial publication. Field 310 of Attachment 2A reads “Weekly \$b 1986-.” Accordingly, the MARC record for Exhibit 1009 corresponds to the journal *Applied Physics Letters* from the time the serial began publication and includes the date of the Dobin article.

54. Attachment 2A includes an entry in field 050 (“QC1 \$b .A74”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“530”), a subject matter consistent with the Dewey Decimal classification system. Attachment 2A includes a descriptor term reading “Physics \$v Periodicals” (see Attachment 1B, Library of Congress subject heading sh2008109342) in the 650 field. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 2A was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entry. As of August 29, 1975, the MARC record attached hereto as Attachment 2A was

accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

55. WorldCat indicates that the journal *Applied Physics Letters* as cataloged at the Library of Congress is currently available from 1,066 libraries.²⁴ In view of the above, this issue of the journal *Applied Physics Letters* was publicly available on May 16, 2006, because by that date it had been cataloged, indexed, and received at the arXiv database. For these reasons, it is my opinion that Exhibit 1009 was published and accessible to the public on May 16, 2006.

VII. DOCUMENT 3: EXHIBIT 1030 (“ASTI”)

56. Attached hereto as Exhibit 1030 is a copy of the journal article titled “Magnetic Phase Diagram and Demagnetization Processes in Perpendicular Exchange-Spring Multilayers” by Giovanni Asti, M. Ghidini, R. Pellicelli, Chiara Pernechele, M. Solzi, F. Albertini, F. Casoli, S. Fabbri, and L. Pareti (hereafter “Asti”). The Asti article was published in Volume 73, Number 9 of the journal *Physical Review B: Condensed Matter and Materials Physics* and was found in the King Library at San José State University (San José, California). The Asti article

²⁴ <https://search.worldcat.org/title/1580952>

appears beginning on page 94406-1 of this issue dated March 2006. Exhibit 1030 is a true and correct copy of the Asti article (pages 94406-1—94406-16) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Asti article is available from the publisher, the American Physical Society,²⁵ which lists an online publication date of March 8, 2006, and the digital repository *ResearchGate*.²⁶ Exhibit 1030 is a true and correct copy in a condition that creates no suspicion about its authenticity.

57. Attached hereto as Attachment 3A is a true and correct copy of the MARC record for the journal *Physical Review B: Condensed Matter and Materials Physics* from the King Library at San José State University online catalog. Library ownership is indicated by the presence of the code for the California State University System (“CSU”) in field 995. The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 3A occurred on September 11, 2024, as shown in field 005 (“20240911”). I personally identified and retrieved the MARC record that is

²⁵ <https://journals.aps.org/prb/abstract/10.1103/PhysRevB.73.094406>

²⁶

https://www.researchgate.net/publication/230888015_Magnetic_phase_diagram_and_demagnetization_processes_in_perpendicular_exchange-spring_multilayer

Attachment 3A.

58. Based on finding a print copy of Exhibit 1030 in the King Library at San José State University and MARC record in its online library catalog attached as Attachment 3A, it is my opinion that the Asti article published in the journal *Physical Review B: Condensed Matter and Materials Physics* was publicly available on March 8, 2006, as indicated on the publisher's website. Attachment 3A also shows that Exhibit 1030 was catalogued with three descriptor terms reading "Condensed matter \$v Periodicals" (see Attachment 3B, Library of Congress subject heading sh2009121313), "Solid state physics \$v Periodicals" (see Attachment 3C, Library of Congress subject heading sh2010114088), and "Surfaces (Physics) \$v Periodicals" (see Attachment 3D, Library of Congress subject heading sh2010114089) in the 650 fields.

59. As noted in the holdings information (362 field), the King Library at San José State University has received the journal *Physical Review B: Condensed Matter and Materials Physics* from January 1998 until the publication ceased operations in 2015. In view of the MARC record for Exhibit 1030, the Asti article was publicly on March 8, 2006, because the serial title had been received, cataloged, and indexed in the King Library at San José State University and made part of its online catalog database.

60. Attached hereto as Attachment 3E is a true and correct copy of the

MARC record for the journal *Physical Review B: Condensed Matter and Materials Physics* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 3E, that library code is “WAU,” which means that the MARC record for this serial was cataloged at the University of Washington Libraries (Seattle, Washington). As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the University of Washington Libraries created OCLC record number 38301710 on February 2, 1998 (“980202”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 3E occurred on September 21, 2025, as shown in field 005 (“20250921”). I personally identified and retrieved the MARC record that is Attachment 3E. The “BLvl” entry in Attachment 3E is “s,” which indicates that the journal *Physical Review B: Condensed Matter and Materials Physics* is a serial publication. Field 310 of Attachment 3E reads “Four no. a month.” Accordingly, the MARC record for Exhibit 1030 corresponds to the journal *Physical Review B: Condensed Matter and Materials Physics* from the time the serial title adopted the current title and includes the date of the Asti article.

61. Attachment 3E includes an entry in field 050 (“QC176.A1 \$b P513”)—as described above, a subject matter classification number consistent with

the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“530.4/1”), a subject matter consistent with the Dewey Decimal classification system. Attachment 3E includes three descriptor terms reading “Condensed matter \$v Periodicals” (see Attachment 3B, Library of Congress subject heading sh2009121313), “Solid state physics \$v Periodicals” (see Attachment 3C, Library of Congress subject heading sh2010114088), and “Surfaces (Physics) \$v Periodicals” (see Attachment 3D, Library of Congress subject heading sh2010114089) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 3E was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entries. As of February 2, 1998, the MARC record attached hereto as Attachment 3E was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

62. WorldCat indicates that the journal *Physical Review B: Condensed Matter and Materials Physics* as cataloged at the University of Washington

Libraries is currently available from 702 libraries.²⁷ In view of the above, this issue of the journal *Physical Review B: Condensed Matter and Materials Physics* was publicly available on March 8, 2006, because by that date it had been cataloged and indexed at the University of Washington Libraries, made part of the OCLC bibliographic database, and received in the King Library at San José State University. For these reasons, it is my opinion that Exhibit 1030 was published and accessible to the public on March 8, 2006.

VIII. DOCUMENT 4: EXHIBIT 1008 (“SUESS 2004”)

63. Attached hereto as Exhibit 1008 is a copy of the journal article titled “Exchange Spring Recording Media for Areal Densities Up to 10Tbit/in²” by D. Suess, Thomas Schrefl, Rok Dittrich, M. Kirschner, F. Dorfbauer, Gino Hrkac, and J. Fidler (hereafter “Suess 2004”). The Suess 2004 article was published in Volumes 290-291, Part 1 of the *Journal of Magnetism and Magnetic Materials* and can be found in the Linda Hall Library of Science, Engineering & Technology (Kansas City, Missouri). I received Exhibit 1008 from counsel. The Suess 2004 article appears beginning on page 551 of this issue dated April 2005. Exhibit 1008 is a true and correct copy of the Suess 2004 article (pages 551-554) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page

²⁷ <https://search.worldcat.org/title/38301710>

appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Suess 2004 article is available from the publisher, Elsevier,²⁸ which lists an online publication date of December 18, 2004, and the digital repository *ResearchGate*.²⁹ Exhibit 1008 is a true and correct copy in a condition that creates no suspicion about its authenticity.

64. Attached hereto as Attachment 4A is a true and correct copy of the MARC record for the *Journal of Magnetism and Magnetic Materials* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 4A, that library code is “GIS,” which means that the MARC record for this serial was cataloged at the National Center Library of the U. S. Geological Survey (Reston, Virginia). As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the National Center Library created OCLC record number 2322040 on July 20, 1976 (“760720”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 4A occurred on September 19, 2025, as shown in field 005 (“20250919”). I personally identified and retrieved the

²⁸ <https://www.sciencedirect.com/science/article/abs/pii/S0304885304017743>

²⁹

https://www.researchgate.net/publication/222074314_Exchange_spring_recording_media_for_areal_densities_up_to_10Tbitin2

MARC record that is Attachment 4A. The “BLv1” entry in Attachment 4A is “s,” which indicates that the *Journal of Magnetism and Magnetic Materials* is a serial publication. Field 310 of Attachment 4A reads “Semimonthly, \$b <Oct. 2003->.” Accordingly, the MARC record for Exhibit 1008 corresponds to the *Journal of Magnetism and Magnetic Materials* from the time the serial began publication and includes the date of the Sues 2004 article.

65. Attachment 4A includes an entry in field 050 (“QC750 \$b .J68”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“538/.05”), a subject matter consistent with the Dewey Decimal classification system. Attachment 4A includes two descriptor terms reading “Magnetism \$v Periodicals” (see Attachment 4B, Library of Congress subject heading sh85079759 and Attachment 4C, Library of Congress subject heading sh85099890) and “Magnetic materials \$v Periodicals” (see Attachment 4D, Library of Congress subject heading sh85079720 and Attachment 4C, Library of Congress subject heading sh85099890) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 4A was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entries. As of July 20, 1976, the MARC record attached

hereto as Attachment 4A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

66. WorldCat indicates that the *Journal of Magnetism and Magnetic Materials* as cataloged at the National Center Library of the U. S. Geological Survey is currently available from 207 libraries.³⁰ In view of the above, this issue of the *Journal of Magnetism and Magnetic Materials* was publicly available on December 18, 2004, because by that date it had been cataloged, indexed, and received at the National Center Library of the U. S. Geological Survey and made part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1008 was published and accessible to the public on December 18, 2004.

IX. DOCUMENT 5: EXHIBIT 1011 (“SUESS 2005”)

67. Attached hereto as Exhibit 1011 is a copy of the journal article titled “Exchange Spring Media for Perpendicular Recording” by D. Suess, Thomas Schrefl, S. Fähler, M. Kirschner, G. Hrkac, F. Dorfbauer, and J. Fidler (hereafter “Suess 2005”). The Suess 2005 article was published in Volume 87, Number 1 of the journal *Applied Physics Letters* and can be found in the Linda Hall Library of

³⁰ <https://search.worldcat.org/title/2322040>

Science, Engineering & Technology (Kansas City, Missouri). I received Exhibit 1011 from counsel. The Suess 2005 article appears beginning on page 012504-1 of this issue dated August 2005. Exhibit 1011 is a true and correct copy of the Suess 2005 article (pages 012504-1—012504-3) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Suess 2005 article is available from the publisher, AIP Publishing,³¹ which lists an online publication date of June 30, 2005, and the digital repositories *ResearchGate*³² and *Semantic Scholar*.³³ Exhibit 1011 is a true and correct copy in a condition that creates no suspicion about its authenticity.

68. Attached hereto as Attachment 5A is a true and correct copy of the MARC record for the journal *Applied Physics Letters* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is

³¹ <https://pubs.aip.org/aip/apl/article-abstract/87/1/012504/925370/Exchange-spring-media-for-perpendicular-recording?redirectedFrom=fulltext>

³²

https://www.researchgate.net/publication/224402574_Exchange_spring_media_for_perpendicular_recording

³³ <https://www.semanticscholar.org/paper/Exchange-spring-media-for-perpendicular-recording-Suess-Schrefl/1ee64a7211e3d2a6794bda07637cc6e0e73d087f>

recorded in field 040 with a unique library code. For Attachment 5A, that library code is “DLC,” which means that the MARC record for this serial was cataloged at the Library of Congress. As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the Library of Congress created OCLC record number 1580952 on August 29, 1975 (“750829”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 5A occurred on September 19, 2025, as shown in field 005 (“20250919”). I personally identified and retrieved the MARC record that is Attachment 5A. The “BLv1” entry in Attachment 5A is “s,” which indicates that the journal *Applied Physics Letters* is a serial publication. Field 310 of Attachment 5A reads “Weekly \$b 1986-.” Accordingly, the MARC record for Exhibit 1011 corresponds to the journal *Applied Physics Letters* from the time the serial began publication and includes the date of the Suess 2005 article.

69. Attachment 5A includes an entry in field 050 (“QC1 \$b .A74”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“530”), a subject matter consistent with the Dewey Decimal classification system. Attachment 5A includes a descriptor term reading “Physics \$v Periodicals” (see Attachment 1B, Library of Congress subject

heading sh2008109342) in the 650 field. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 5A was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entry. As of August 29, 1975, the MARC record attached hereto as Attachment 5A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

70. WorldCat indicates that the journal *Applied Physics Letters* as cataloged at the Library of Congress is currently available from 1,066 libraries.³⁴ In view of the above, this issue of the journal *Applied Physics Letters* was publicly available on June 30, 2005, because by that date it had been cataloged, indexed, and received at the Library of Congress and made part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1011 was published and accessible to the public on June 30, 2005.

X. DOCUMENT 6: EXHIBIT 1017 (“CHRISTENSEN”)

71. Attached hereto as Exhibit 1017 is a copy of the journal article titled

³⁴ <https://search.worldcat.org/title/1580952>

“The Rigid Disk Drive Industry: A History of Commercial and Technological Turbulence” by Clayton M. Christensen (hereafter “Christensen”). The Christensen article was published in Volume 67, Number 4 of the open access journal *Business History Review* and can be found in the Library of Congress. I received Exhibit 1017 from counsel. The Christensen article appears beginning on page 531 of this issue dated Winter 1993. Exhibit 1017 is a true and correct copy of the Christensen article (pages 531-588) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Christensen article is available from the publisher, Cambridge University Press,³⁵ and the digital repository *Semantic Scholar*,³⁶ which lists a December 1, 1993, publication date. Exhibit 1017 is a true and correct copy in a condition that creates no suspicion about its authenticity.

72. Attached hereto as Attachment 6A is a true and correct copy of the MARC record for the open access journal *Business History Review* obtained from

³⁵ <https://www.cambridge.org/core/journals/business-history-review/article/abs/rigid-disk-drive-industry-a-history-of-commercial-and-technological-turbulence/CF54257C79F0FC3F34D2A7104F640A84>

³⁶ <https://www.semanticscholar.org/paper/The-Rigid-Disk-Drive-Industry%3A-A-History-of-and-Christensen/ee06ddde520428b249279f6060231f64e3f5f6c3>

the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 6A, that library code is “EQO,” which means that the MARC record for this serial was cataloged at the University of Oxford Library (Oxford, United Kingdom). As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the University of Oxford Library created OCLC record number 52502116 on June 16, 2003 (“030616”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 6A occurred on September 21, 2025, as shown in field 005 (“20250921”). I personally identified and retrieved the MARC record that is Attachment 6A. The “BLvl” entry in Attachment 6A is “s,” which indicates that the open access journal *Business History Review* is a serial publication. Field 310 of Attachment 6A reads “Quarterly.” Accordingly, the MARC record for Exhibit 1017 corresponds to the open access journal *Business History Review* from the time the serial began publication and includes the date of the Christensen article.

73. Attachment 6A includes an entry in field 050 (“HF5001”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system). Attachment 6A includes two descriptor terms reading “Business \$v Periodicals” (see Attachment 6B, Library of Congress subject heading

sh85018269) and “Business \$x History \$v Periodicals” (see Attachment 6C, Library of Congress subject heading sh85018260, Attachment 6D, Library of Congress subject heading sh85061212, and Attachment 4C, Library of Congress subject heading sh85099890) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 6A was indexed according to its subject matter by virtue of at least two independently sufficient classifications: the field 050 entry and the field 650 entries. As of June 13 2003, the MARC record attached hereto as Attachment 6A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

74. WorldCat indicates that the open access journal *Business History Review* as cataloged at the University of Oxford Library is currently available from 1,932 libraries.³⁷ In view of the above, this issue of the open access journal *Business History Review* was publicly available on December 1, 1993, because by that date it had been cataloged, indexed, and received at the Library of Congress and made part of the OCLC bibliographic database. For these reasons, it is my

³⁷ <https://search.worldcat.org/title/52502116>

opinion that Exhibit 1017 was published and accessible to the public on December 1, 1993.

XI. DOCUMENT 7: EXHIBIT 1018 (“GOUREVITCH”)

75. Attached hereto as Exhibit 1018 is a copy of the journal article titled “Globalization of Production: Insights from the Hard Disk Drive Industry” by Peter Gourevitch, Roger Bohn, and David McKendrick (hereafter “Gourevitch”). The Gourevitch article was published in Volume 28, Issue 2 of the journal *World Development* and can be found in the Library of Congress. I received Exhibit 1018 from counsel. The Gourevitch article appears beginning on page 301 of this issue dated February 2000. Exhibit 1018 is a true and correct copy of the Gourevitch article (pages 301-317) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Gourevitch article is available from the publisher, Elsevier,³⁸ which lists a February 2, 2000, publication date. Exhibit 1018 is a true and correct copy in a condition that creates no suspicion about its authenticity.

76. Attached hereto as Attachment 7A is a true and correct copy of the MARC record for the journal *World Development* obtained from the OCLC

³⁸ <https://www.sciencedirect.com/science/article/abs/pii/S0305750X99001229>

bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 7A, that library code is “DLC,” which means that the MARC record for this serial was cataloged at the Library of Congress. As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the Library of Congress created OCLC record number 1787937 on November 8, 1973 (“731108”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 7A occurred on December 8, 2024, as shown in field 005 (“20241208”). I personally identified and retrieved the MARC record that is Attachment 7A. The “BLvl” entry in Attachment 7A is “s,” which indicates that the journal *World Development* is a serial publication. Field 310 of Attachment 7A reads “Monthly, \$b <July 2003->.” Accordingly, the MARC record for Exhibit 1018 corresponds to the journal *World Development* from the time the serial began publication and includes the date of the Gourevitch article.

77. Attachment 7A includes an entry in field 050 (“HC4 \$b .W66”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“338/.09/04”)—as described above, a subject matter classification number consistent with the Dewey Decimal classification

system. Attachment 7A includes three descriptor terms reading “Economic history \$y 1990 \$v Periodicals” (see Attachment 7B, Library of Congress subject heading sh2008102577), “Economic assistance \$z Developing countries \$v Periodicals” (see Attachment 7C, Library of Congress subject heading sh2008118612), and “Developing countries \$x Economic conditions \$v Periodicals” (see Attachment 7D, Library of Congress subject heading sh2008114843) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 7A was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entries. As of November 8, 1973, the MARC record attached hereto as Attachment 7A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

78. WorldCat indicates that the journal *World Development* as cataloged at the Library of Congress is currently available from 586 libraries.³⁹ In view of the above, this issue of the journal *World Development* was publicly available on February 2, 2000, because by that date it had been posted on the publisher’s

³⁹ <https://search.worldcat.org/title/1787937>

website. For these reasons, it is my opinion that Exhibit 1018 was published and accessible to the public on February 2, 2000.

XII. DOCUMENT 8: EXHIBIT 1020 (“OKAMOTO”)

79. Attached hereto as Exhibit 1020 is a copy of the journal article titled “The Anisotropy Field of FePt L1₀ Nanoparticles Controlled by Very Thin Pt Layer” by Satoshi Okamoto, Osamu Kitakami, Nobuaki Kikuchi, Takamichi Miyazaki, Yutaka Shimada, and Te-Hsuan Chiang (hereafter “Okamoto”). The Okamoto article was published in Volume 16, Number 12 of the *Journal of Physics: Condensed Matter* and can be found in the Linda Hall Library of Science, Engineering & Technology (Kansas City, Missouri). I received Exhibit 1020 from counsel. The Okamoto article appears beginning on page 2109 of this issue dated March 2004. Exhibit 1020 is a true and correct copy of the Okamoto article (pages 2109-2114) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Okamoto article is available from the publisher, IOP Science,⁴⁰ which lists an online publication date of March 12, 2004. Exhibit 1020 is a true and correct copy in a condition that creates no suspicion about its authenticity.

⁴⁰ <https://iopscience.iop.org/article/10.1088/0953-8984/16/12/020>

80. Attached hereto as Attachment 8A is a true and correct copy of the MARC record for the *Journal of Physics: Condensed Matter* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 8A, that library code is “EUN,” which means that the MARC record for this serial was cataloged at the Newcastle University Library (Newcastle Upon Tyne, United Kingdom). As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the Newcastle University Library created OCLC record number 19068764 on January 26, 1989 (“890126”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 8A occurred on September 20, 2025, as shown in field 005 (“20250920”). I personally identified and retrieved the MARC record that is Attachment 8A. The “BLvl” entry in Attachment 8A is “s,” which indicates that the *Journal of Physics: Condensed Matter* is a serial publication. Field 310 of Attachment 8A reads “Weekly (50 issues yearly), \$b <2003->.” Accordingly, the MARC record for Exhibit 1020 corresponds to the *Journal of Physics: Condensed Matter* from the time the serial began publication and includes the date of the Okamoto article.

81. Attachment 8A includes an entry in field 050 (“QC173.4.C65 \$b J68”)—as described above, a subject matter classification number consistent with

the Library of Congress classification system (analogous to the Dewey Decimal classification system). Attachment 8A includes a descriptor term reading “Condensed matter \$v Periodicals” (see Attachment 3B, Library of Congress subject heading sh2009121313) in the 650 field. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 8A was indexed according to its subject matter by virtue of at least two independently sufficient classifications: the field 050 entry and the field 650 entry. As of January 26, 1989, the MARC record attached hereto as Attachment 8A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

82. WorldCat indicates that the *Journal of Physics: Condensed Matter* as cataloged at the Newcastle University Library is currently available from 833 libraries.⁴¹ In view of the above, this issue of the *Journal of Physics: Condensed Matter* was publicly available on March 12, 2004, because by that date it had been cataloged, indexed, and received at the Newcastle University Library and made part of the OCLC bibliographic database. For these reasons, it is my opinion that

⁴¹ <https://search.worldcat.org/title/19068764>

Exhibit 1020 was published and accessible to the public on March 12, 2004.

XIII. DOCUMENT 9: EXHIBIT 1023 (“GAO”)

83. Attached hereto as Exhibit 1023 is a copy of the journal article titled “Magnetic Recording Configuration for Densities Beyond 1 Tb/in² and Data Rates Beyond 1 Gb/s” by Kai-Zhong Gao and H. Neal Bertram (hereafter “Gao”). The Gao article was published in Volume 38, Issue 6 of the journal *IEEE Transactions on Magnetics* and can be found in the Linda Hall Library of Science, Engineering & Technology (Kansas City, Missouri). I received Exhibit 1023 from counsel. The Gao article appears beginning on page 3675 of this issue dated November 2002. Exhibit 1023 is a true and correct copy of the Gao article (pages 3675-3683) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Gao article is available from the *IEEE Xplore* database,⁴² which lists an online publication date of November 30, 2002, and the digital repositories *ResearchGate*⁴³ and *Semantic Scholar*.⁴⁴ Exhibit 1023 is a true

⁴² <https://ieeexplore.ieee.org/document/1158960>

⁴³

https://www.researchgate.net/publication/3109957_Magnetic_recording_configuration_for_densities_beyond_1_Tbin2_and_data_rates_beyond_1_Gbs

and correct copy in a condition that creates no suspicion about its authenticity.

84. Attached hereto as Attachment 9A is a true and correct copy of the MARC record for the journal *IEEE Transactions on Magnetism* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 9A, that library code is “DLC,” which means that the MARC record for this serial was cataloged at the Library of Congress. As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the Library of Congress created OCLC record number 3938336 on May 30, 1978 (“780530”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 9A occurred on September 19, 2025, as shown in field 005 (“20250919”). I personally identified and retrieved the MARC record that is Attachment 9A. The “BLvl” entry in Attachment 9A is “s,” which indicates that the journal *IEEE Transactions on Magnetism* is a serial publication. Field 310 of Attachment 9A reads “Monthly \$b 2005-.” Accordingly, the MARC record for Exhibit 1023 corresponds to the journal *IEEE Transactions on Magnetism* from the time the serial began publication and includes the date of the Gao article.

⁴⁴ <https://www.semanticscholar.org/paper/Magnetic-recording-configuration-for-densities-1-Tb-Gao-Bertram/81cdd0dc5765da1a5f7ebccc089eaa89d714d4a1>

85. Attachment 9A includes an entry in field 050 (“TK454.4.M3 \$b I48”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“621.34/05”)—as described above, a subject matter classification number consistent with the Dewey Decimal classification system. Attachment 9A includes two descriptor terms reading “Magnetic devices \$v Periodicals” (see Attachment 9B, Library of Congress subject heading sh85079698 and Attachment 4C, Library of Congress subject heading sh85099890) and “Magnetics” (see Attachment 9C, Library of Congress subject heading sh85079758) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 9A was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entry. As of May 30, 1978, the MARC record attached hereto as Attachment 9A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

86. WorldCat indicates that the journal *IEEE Transactions on Magnetics*

as cataloged at the Library of Congress is currently available from 767 libraries.⁴⁵

In view of the above, this issue of the journal *IEEE Transactions on Magnetism* was publicly available on November 30, 2002, because by that date it had been cataloged, indexed, and received at the Library of Congress and made part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1023 was published and accessible to the public on November 30, 2002.

XIV. DOCUMENT 10: EXHIBIT 1028 (“SHIMATSU”)

87. Attached hereto as Exhibit 1028 is a copy of the journal article titled “High Perpendicular Magnetic Anisotropy of CoPtCr/Ru Films for Granular-Type Perpendicular Media” by T. Shimatsu, H. Sato, T. Oikawa, Y. Inaba, O. Kitakami, S. Okamoto, H. Aoi, H. Muraoka, and Y. Nakamura (hereafter “Shimatsu”). The Shimatsu article was published in Volume 40, Issue 4 of the journal *IEEE Transactions on Magnetism* and can be found in the Linda Hall Library of Science, Engineering & Technology (Kansas City, Missouri). I received Exhibit 1028 from counsel. The Shimatsu article appears beginning on page 2483 of this issue dated July 2004. Exhibit 1028 is a true and correct copy of the Shimatsu article (pages 2483-2485) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there

⁴⁵ <https://search.worldcat.org/title/3938336>

are no visible alterations to the document. The Shimatsu article is available from the *IEEE Xplore* database,⁴⁶ which lists an online publication date of July 31, 2004, and the digital repositories *ResearchGate*⁴⁷ and *Semantic Scholar*.⁴⁸ Exhibit 1028 is a true and correct copy in a condition that creates no suspicion about its authenticity.

88. Attached hereto as Attachment 10A is a true and correct copy of the MARC record for the journal *IEEE Transactions on Magnetism* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 10A, that library code is “DLC,” which means that the MARC record for this serial was cataloged at the Library of Congress. As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the Library of Congress created OCLC record number 3938336 on May 30, 1978 (“780530”). The library continues to update and enhance this MARC record to meet current cataloging

⁴⁶ <https://ieeexplore.ieee.org/document/1325545>

⁴⁷

https://www.researchgate.net/publication/224750275_High_Perpendicular_Magnetic_Anisotropy_of_CoPtCrRu_Films_for_Granular-Type_Perpendicular_Media

⁴⁸ [https://www.semanticscholar.org/paper/High-perpendicular-magnetic-anisotropy-of-CoPtCr-Ru-Shimatsu-](https://www.semanticscholar.org/paper/High-perpendicular-magnetic-anisotropy-of-CoPtCr-Ru-Shimatsu-Sato/3d46a5b7e7907876660c64167af4a5c03deed055)

[Sato/3d46a5b7e7907876660c64167af4a5c03deed055](https://www.semanticscholar.org/paper/High-perpendicular-magnetic-anisotropy-of-CoPtCr-Ru-Shimatsu-Sato/3d46a5b7e7907876660c64167af4a5c03deed055)

rules. The most recent enhancement to Attachment 10A occurred on September 19, 2025, as shown in field 005 (“20250919”). I personally identified and retrieved the MARC record that is Attachment 10A. The “BLvl” entry in Attachment 10A is “s,” which indicates that the journal *IEEE Transactions on Magnetism* is a serial publication. Field 310 of Attachment 10A reads “Monthly \$b 2005-.” Accordingly, the MARC record for Exhibit 1028 corresponds to the journal *IEEE Transactions on Magnetism* from the time the serial began publication and includes the date of the Shimatsu article.

89. Attachment 10A includes an entry in field 050 (“TK454.4.M3 \$b I48”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“621.34/05”)—as described above, a subject matter classification number consistent with the Dewey Decimal classification system. Attachment 10A includes two descriptor terms reading “Magnetic devices \$v Periodicals” (see Attachment 9B, Library of Congress subject heading sh85079698 and Attachment 4C, Library of Congress subject heading sh85099890) and “Magnetism” (see Attachment 9C, Library of Congress subject heading sh85079758) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 10A was indexed according to its subject matter by virtue of at least three independently

sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entry. As of May 30, 1978, the MARC record attached hereto as Attachment 10A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

90. WorldCat indicates that the journal *IEEE Transactions on Magnetics* as cataloged at the Library of Congress is currently available from 767 libraries.⁴⁹ In view of the above, this issue of the journal *IEEE Transactions on Magnetics* was publicly available on July 31, 2004, because by that date it had been cataloged, indexed, and received at the Library of Congress and made part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1028 was published and accessible to the public on July 31, 2004.

XV. DOCUMENT 11: EXHIBIT 1029 (“KAITSU”)

91. Attached hereto as Exhibit 1029 is a copy of the journal article titled “Ultra High Density Perpendicular Magnetic Recording Technologies” by Isatake Kaitsu, Ryosaku Inamura, Junzo Toda, and Toshihiko Morita (hereafter “Kaitsu”). The Kaitsu article was published in Volume 42, Number 25 of the *FUJITSU*

⁴⁹ <https://search.worldcat.org/title/3938336>

Scientific & Technology Journal and can be found in the Linda Hall Library of Science, Engineering & Technology (Kansas City, Missouri). I received Exhibit 1029 from counsel. The Kaitsu article appears beginning on page 122 of this issue dated January 2006. Exhibit 1029 is a true and correct copy of the Kaitsu article (pages 122-130) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Kaitsu article is available from the Fujitsu corporate archives.⁵⁰ Exhibit 1029 is a true and correct copy in a condition that creates no suspicion about its authenticity.

92. Attached hereto as Attachment 11A is a true and correct copy of the MARC record for the *FUJITSU Scientific & Technology Journal* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 11A, that library code is “PIT,” which means that the MARC record for this serial was cataloged at the University of Pittsburgh Libraries (Pittsburgh, Pennsylvania). As can be seen in field 008 (“Date entered on file”) in the MARC record for this

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<https://www.fujitsu.com/global/documents/about/resources/publications/fstj/archives/vol42-1/paper14.pdf>

exhibit, a cataloger at the University of Pittsburgh Libraries created OCLC record number 1939196 on January 21, 1976 (“760121”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 11A occurred on September 20, 2025, as shown in field 005 (“20250920”). I personally identified and retrieved the MARC record that is Attachment 11A. The “BLvl” entry in Attachment 11A is “s,” which indicates that the *FUJITSU Scientific & Technology Journal* is a serial publication. Field 310 of Attachment 11A reads “Quarterly, \$b <2008->.” Accordingly, the MARC record for Exhibit 1029 corresponds to the *FUJITSU Scientific & Technology Journal* from the time the serial began publication and includes the date of the Kaitsu article.

93. Attachment 11A includes an entry in field 050 (“TK1 \$b .F9”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system). Attachment 11A includes a descriptor term reading “Electrical engineering \$v Periodicals” (see Attachment 11B, Library of Congress subject heading sh2008102896) in the 650 field. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 11A was indexed according to its subject matter by virtue of at least two independently sufficient classifications: the field 050 entry and the field 650 entry. As of

January 21, 1976, the MARC record attached hereto as Attachment 11A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

94. WorldCat indicates that the *FUJITSU Scientific & Technology Journal* as cataloged at the University of Pittsburgh Libraries is currently available from 296 libraries.⁵¹ In view of the above, this issue of the *FUJITSU Scientific & Technology Journal* was publicly available on January 31, 2006, because by that date it had been cataloged, indexed, and received at the University of Pittsburgh Libraries and made part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1029 was published and accessible to the public on January 31, 2006.

XVI. DOCUMENT 12: EXHIBIT 1031 (“PARKIN”)

95. Attached hereto as Exhibit 1031 is a copy of the journal article titled “Systematic Variation of the Strength and Oscillation Period of Indirect Magnetic Exchange Coupling through the 3*d*, 4*d*, and 5*d* Transition Metals” by S. S. P. Parkin (hereafter “Parkin”). The Parkin article was published in Volume 67,

⁵¹ <https://search.worldcat.org/title/1939196>

Number 25 of the journal *Physical Review Letters* and can be found in the Library of Congress. I received Exhibit 1031 from counsel. The Parkin article appears beginning on page 3598 of this issue dated December 16, 1991. Exhibit 1031 is a true and correct copy of the Parkin article (pages 3598-3601) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. The Parkin article is available from the publisher, the American Physical Society,⁵² which indicates a December 16, 1991, publication date, through the National Library of Medicine,⁵³ and the digital repository *ResearchGate*.⁵⁴ Exhibit 1031 is a true and correct copy in a condition that creates no suspicion about its authenticity.

96. Attached hereto as Attachment 12A is a true and correct copy of the MARC record for the journal *Physical Review Letters* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 12A, that library

⁵² <https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.67.3598>

⁵³ <https://pubmed.ncbi.nlm.nih.gov/10044776/>

⁵⁴ <https://research.ibm.com/publications/systematic-variation-of-the-strength-and-oscillation-period-of-indirect-magnetic-exchange-coupling-through-the-3d-4d-and-5d-transition-metals>

code is “Y9N,” which means that the MARC record for this serial was cataloged at the Council for Scientific and Industrial Research (CSIR) Information Services Library (Pretoria, South Africa). As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the CSIR Information Services Library created OCLC record number 934716557 on February 27, 1989 (“890227”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 12A occurred on September 2, 2025, as shown in field 005 (“20250902”). I personally identified and retrieved the MARC record that is Attachment 12A. The “BLvl” entry in Attachment 12A is “s,” which indicates that the journal *Physical Review Letters* is a serial publication. Field 310 of Attachment 12A reads “Semimonthly.” Accordingly, the MARC record for Exhibit 1031 corresponds to the journal *Physical Review Letters* from the time the serial began publication and includes the date of the Parkin article.

97. Attachment 12A includes an entry in field 082 (“530 \$b PHYSICAL”)—as described above, a subject matter classification number consistent with the Dewey Decimal classification system. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 12A was indexed according to its subject matter by virtue of at least two independently sufficient classifications: the field 082 entry and the title (field

245) entry. As of February 27, 1989, the MARC record attached hereto as Attachment 12A was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

98. WorldCat indicates that the journal *Physical Review Letters* as cataloged at the CSIR Information Services Library is currently available from 4 libraries.⁵⁵ In view of the above, this issue of the journal *Physical Review Letters* was publicly available on December 16, 1991, because by that date it had been cataloged, indexed, and received at the CSIR Information Services Library and made part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1031 was published and accessible to the public on December 16, 1991.

XVII.SUMMARY OF OPINIONS

99. In view of the foregoing, it is my opinion that the publications described above were publicly available no later than the corresponding date listed in the table below:

⁵⁵ <https://search.worldcat.org/title/934716557>

Exhibit	Publication	Publicly Available No Later Than
1007	Shen, W. K., J. M. Bai, R. H. Victora, J. H. Judy, and Jian-Ping Wang. “Composite Perpendicular Magnetic Recording Media Using [Co / PdSi] _n as a Hard Layer and as a Soft Layer.” <i>Journal of Applied Physics</i> , vol. 97, issue 10 (15 May 2005): 513-1--513-3.	May 17, 2005
1009	Dobin, Alexander Yu., and H. J. Richter. “Domain Wall Assisted Magnetic Recording.” <i>Applied Physics Letters</i> , vol. 89, issue 6 (7 August 2006): 62512-1--62516-3.	May 16, 2006
1030	Asti, Giovanni, M. Ghidini, R. Pellicelli, Chiara Pernechele, M. Solzi, F. Albertini, F. Casoli, S. Fabbri, and L. Pareti. “Magnetic Phase Diagram and Demagnetization Processes in Perpendicular Exchange-Spring Multilayers.” <i>Physical Review B: Condensed Matter and Materials Physics</i> , vol. 73, no. 9 (March 2006): 094406-1--094406-16.	March 8, 2006
1008	Suess, D., Thomas Schrefl, Rok Dittrich, M. Kirschner, F. Dorfbauer, Gino Hrkac, and J. Fidler. “Exchange Spring Recording Media for Areal Densities Up to 10Tbit/in ² .” <i>Journal of Magnetism and Magnetic Materials</i> , vols. 290–291, part 1 (April 2005): 551–554.	December 18, 2004
1011	Suess, D., Thomas Schrefl, S. Fähler, M. Kirschner, G. Hrkac, F. Dorfbauer, and J. Fidler. “Exchange Spring Media for Perpendicular Recording.” <i>Applied Physics Letters</i> , vol. 87, no.1 (August 2005): 012504-1--012504-3.	June 30, 2005
1017	Christensen, Clayton M. “The Rigid Disk Drive Industry: A History of Commercial and Technological Turbulence.” <i>Business History Review</i> , vol. 67, no. 4 (Winter 1993): 531-588.	December 1, 1993
1018	Gourevitch, Peter, Roger Bohn, and David McKendrick. “Globalization of Production: Insights from the Hard Disk Drive Industry.” <i>World Development</i> , vol. 28, issue 2 (February	February 2, 2000

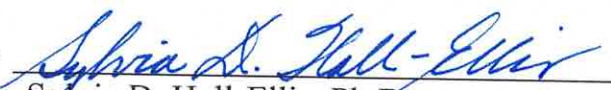
Exhibit	Publication	Publicly Available No Later Than
	2000): 301-317.	
1020	Okamoto, Satoshi, Osamu Kitakami, Nobuaki Kikuchi, Takamichi Miyazaki, Yutaka Shimada, and Te-Hsuan Chiang. "The Anisotropy Field of FePt L1 ₀ Nanoparticles Controlled by Very Thin Pt Layer." <i>Journal of Physics: Condensed Matter</i> , vol. 16, no. 12 (March 2004): 2109–2114.	March 12, 2004
1023	Gao, Kai-Zhong, and H. Neal Bertram. "Magnetic Recording Configuration for Densities Beyond 1 Tb/in ² and Data Rates Beyond 1 Gb/s." <i>IEEE Transactions on Magnetics</i> , vol. 38, issue 6 (November 2002): 3675-3683.	November 30, 2002
1028	Shimatsu, T., H. Sato, T. Oikawa, Y. Inaba, O. Kitakami, S. Okamoto, H. Aoi, H. Muraoka, and Y. Nakamura. "High Perpendicular Magnetic Anisotropy of CoPtCr/Ru Films for Granular-Type Perpendicular Media." <i>IEEE Transactions on Magnetics</i> , vol. 40, no. 4 (July 2004): 2483-2485.	July 31, 2004
1029	Kaitsu, Isatake, Ryosaku Inamura, Junzo Toda, and Toshihiko Morita. "Ultra High Density Perpendicular Magnetic Recording Technologies." <i>FUJITSU Scientific & Technology Journal</i> , vol. 42, no. 1 (January 2006): 122-130.	January 31, 2006
1031	Parkin, S. S. P. "Systematic Variation of the Strength and Oscillation Period of Indirect Magnetic Exchange Coupling through the 3d, 4d, and 5d Transition Metals." <i>Physical Review Letters</i> , vol. 67, no. 25 (16 December 1991): 3598-3601.	December 16, 1991

100. In signing this Declaration, I recognize that the Declaration will be filed as evidence in a case before the Patent Trial and Appeal Board of the United

States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

101. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, e.g., under 18 U.S.C. § 1001 or 28 U.S.C. § 1746.

DATED: October 8, 2025

By: 
Sylvia D. Hall-Ellis, Ph.D.

ATTACHMENT 1A

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 010 ##\$a 33023425 \$zsc 77000391
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 016 7#\$a3112-4 \$2DE-600
 016 7#\$a2985119R \$2DNLM
 016 7#\$aJ12960000 \$2DNLM
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 245 00\$aJournal of applied physics.
 260 ##\$aNew York, N.Y. : \$bAmerican Institute of Physics, \$c©1937-

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 550 ##\$aPublished in cooperation with the American Physical Society.
 530 ##\$aAlso issued on microfilm.
 510 2#\$aChemical abstracts \$x0009-2258
 555 ##\$aAuthor and subject index: v. 53 (1982)-60 (1986). 1 v.; v. 61 (1987)-70 (1991). 1 v.; v. 71
 (1992)-80 (1996). 1 v.
 515 ##\$aSome numbers issued in 2 or more parts.
 500 ##\$almp rint varies.
 588 ##\$aLatest issue consulted: Vol. 89, no. 8 (15 Apr. 2001).
 590 ##\$aAlso available on microfilm. \$9LOCAL
 650 #0\$aPhysics \$vPeriodicals.
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856 41\$uhttp://ojps.aip.org/japo/
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 210 0 J. appl. physi.
 222 0 Journal of applied physics
 245 0 0 Journal of applied physics.
 260 New York, N.Y. : \$b American Institute of Physics, \$c ©1937-
 300 volumes : \$b illustrations ; \$c 27-29 cm
 310 Semimonthly, \$b Jan. 1984-
 321 Monthly, \$b 1937-1983
 336 text \$b txt \$2 rdacontent
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 362 0 Vol. 8, no. 1 (Jan. 1937)-
 500 Imprint varies.
 510 2 Chemical abstracts \$x 0009-2258
 515 Some numbers issued in 2 or more parts.
 530 Also issued on microfilm.
 550 Published in cooperation with the American Physical Society.
 555 Author and subject index: v. 53 (1982)-60 (1986). 1 v.; v. 61 (1987)-70 (1991). 1 v.; v. 71 (1992)-80 (1
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 588 Latest issue consulted: Vol. 89, no. 8 (15 Apr. 2001).
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005	20250919152234.7	
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	Date2/Ending Date of Publication	'9999'
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	Frequency	'w' - Weekly
	Regularity	'r' - Regular
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	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Original Alphabet or Script of Title	'a' - Basic Roman
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210 0 Appl. phys. lett.

222 0 Applied physics letters

245 0 0 Applied physics letters.

260 New York \$b American Institute of Physics.

300 volumes \$b illustrations \$c 27 cm

310 Weekly, \$b 1986-

321 Semimonthly, \$b 1963-85

321 Monthly, \$b 1962

336 text \$b txt \$2 rdacontent

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362 0 v. 1- Sept. 1962-

510 2 Chemical abstracts \$x 0009-2258

555 Cumulative index for each ten vols. beginning with v. 30-39.

580 Issued as companion to: Journal of applied physics, ISSN 0021-8979.

650 0 Physics \$v Periodicals.

650 6 Physique \$v Périodiques.

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 246 30\$aCondensed matter and materials physics
 260 ##\$aWoodbury, NY : \$bPublished by the American Physical Society through the American
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 300 ##\$avolumes : \$billustrations ; \$c28 cm
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 362 1#\$aCeased in 2015.
 555 ##\$aCumulative index published in: Physical review and Physical review letters index.
 515 ##\$aPublished twice on the 1st and twice on the 15th of each month.
 500 ##\$aTitle from cover.
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 588 ##\$aLatest issue consulted: Volume 83, Issue 20 (15 May 2011) (surrogate).
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008	Date Entered on File	'980202'
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	Date1/Beginning Date of Publication	'1998'
	Date2/Ending Date of Publication	'2015'
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	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
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 245 0 0 Physical review. **\$n** B, **\$p** Condensed matter and materials physics.
 246 3 0 Condensed matter and materials physics
 260 Woodbury, NY : **\$b** Published by the American Physical Society through the American Institute of Physics, **\$c** ©1998-
 300 volumes : **\$b** illustrations ; **\$c** 28 cm
 310 Four no. a month
 336 text **\$b** txt **\$2** rdacontent
 337 unmediated **\$b** n **\$2** rdamedia
 338 volume **\$b** nc **\$2** rdacarrier
 362 0 3rd ser., v. 57, no. 1, I (Jan. 1, 1998)-
 362 1 Ceased in 2015.
 500 Title from cover.
 500 Summaries of papers may appear in advance in: Physical review abstracts.
 515 Published twice on the 1st and twice on the 15th of each month.
 555 Cumulative index published in: Physical review and Physical review letters index.
 588 Latest issue consulted: Volume 83, Issue 20 (15 May 2011) (surrogate).
 650 0 Condensed matter **\$v** Periodicals.
 650 0 Solid state physics **\$v** Periodicals.
 650 0 Surfaces (Physics) **\$v** Periodicals.
 650 6 Matière condensée **\$v** Périodiques.
 650 6 Physique de l'état solide **\$v** Périodiques.
 650 6 Surfaces (Physique) **\$v** Périodiques.
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 650 7 Solid state physics. **\$2** fast **\$0** (OCoLC)fst01125456
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 650 1 7 Vaste stoffen. **\$2** gtt
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 655 7 Periodicals. **\$2** lcgft
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ATTACHMENT 4A

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	Encoding Level	' ' - Full level
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	Frequency	's' - Semimonthly
	Regularity	'r' - Regular
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	Nature of Entire Work	' ' - No specified nature of entire work
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	Conference Publication	'0' - Not a conference publication
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210 0 J. magn. magn. mater.
 222 0 Journal of magnetism and magnetic materials
 245 0 0 Journal of magnetism and magnetic materials.
 246 1 3 MMM \$f <June 1, 1998->
 260 Amsterdam, \$b North-Holland Pub. Co.
 300 volumes \$b illustrations \$c 26 cm
 310 Semimonthly, \$b <Oct. 2003->
 321 Forty-two no. a year, \$b <2003->
 321 Frequency varies, \$b 1975-
 336 text \$b txt \$2 rdacontent
 337 unmediated \$b n \$2 rdamedia
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 362 0 v. 1- Oct. 1975-
 500 Some issues also have distinctive titles; some are called special issues.
 510 2 Chemical abstracts \$x 0009-2258
 515 Some nos. issued in combined form.
 530 Also issued by subscription via the World Wide Web.
 550 Recognized by: the European Physical Society, <2010->
 555 Vols. 21 (1980)-30 (1983). 1 v.; v. 71 (1987)-91 (1990). 1 v.; v. 171 (1997)-190 (1998). 1 v.
 650 0 Magnetism \$v Periodicals.
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 650 7 Magnetic materials. \$2 fast \$0 (OCoLC)fst01005731
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 776 0 8 \$t Journal of magnetism and magnetic materials (Online) \$o Online version: \$w (DLC) 2003233274
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 850 AU \$a CLSU \$a CU-A \$a CU-I \$a CU-S \$a CaQMU \$a DLC \$a DeU \$a FU \$a GU \$a ICRL
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856 4 1 **\$u** <http://www.sciencedirect.com/science/journal/03048853>

936 Unknown **\$a** Vol. 322, issue 17 (Sept. 1, 2010)

029 1 AU@ **\$b** 000000993715

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550 \$a Newspapers
550 \$a Press
670 \$a UMI business vocab. \$b (Journals)
680 \$i Here are entered works on the periodicals of the world and, with appropriate subdivisions, works on special aspects or sections of periodicals. Works on periodicals in a specific language, or in a specific country or larger area, are entered under the adjectival form of the language or area, e.g. \$a Arabic periodicals; Canadian periodicals.
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ATTACHMENT 5A

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008	Date Entered on File	'750829'
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	Conference Publication	'0' - Not a conference publication
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210 0 Appl. phys. lett.

222 0 Applied physics letters

245 0 0 Applied physics letters.

260 New York \$b American Institute of Physics.

300 volumes \$b illustrations \$c 27 cm

310 Weekly, \$b 1986-

321 Semimonthly, \$b 1963-85

321 Monthly, \$b 1962

336 text \$b txt \$2 rdacontent

337 unmediated \$b n \$2 rdamedia

338 volume \$b nc \$2 rdacarrier

362 0 v. 1- Sept. 1962-

510 2 Chemical abstracts \$x 0009-2258

555 Cumulative index for each ten vols. beginning with v. 30-39.

580 Issued as companion to: Journal of applied physics, ISSN 0021-8979.

650 0 Physics \$v Periodicals.

650 6 Physique \$v Périodiques.

650 7 33.00 physics: general. \$0 (NL-LeOCL)077595505 \$2 bcl

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ATTACHMENT 6A

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	Encoding Level	' ' - Full level
	Descriptive Cataloging Form	'a' - AACR2
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005	20250921115338.8	
008	Date Entered on File	'030616'
	Type of Date/Publication Status	'c' - Continuing resource currently published
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	Place of Publication, Production, or Execution Code	'enk' - England
	Frequency	'q' - Quarterly
	Regularity	'r' - Regular
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	Form of Original Item	' ' - None of the following
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	Nature of Contents	' '
	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Original Alphabet or Script of Title	'a' - Basic Roman
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	Type of Computer File	'd' - Document
	Government Publication	' ' - Not a government publication
007	Category of Resource	'c' - Electronic Resource
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130 0 Business history review (Online)

222 0 Business history review \$b (Online)

245 1 4 The business history review.

260 Boston : \$b Harvard Graduate School of Business Administration, \$c 1954-

310 Quarterly

336 text \$b txt \$2 rdacontent

337 computer \$b c \$2 rdamedia

338 online resource \$b cr \$2 rdacarrier

362 0 Vol. 28, no. 1 (Mar. 1954)-

500 Title from title screen (JSTOR, viewed Apr. 14, 2004).

500 Published by: Harvard Business School, winter 1983-

530 Also issued in print.

538 Mode of access: World Wide Web.

588 Latest issue consulted: Vol. 93, no. 4 (2019) (Cambridge Core, viewed April 23, 2020).

650 0 Business \$v Periodicals.

650 0 Business \$x History \$v Periodicals.

650 6 Affaires \$0 (CaQQLa)201-0000178 \$x Histoire \$0 (CaQQLa)201-0378888 \$v Périodiques. \$0 (Ca
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650 7 15.10 subdisciplines of history. \$2 bcl

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 655 7 Périodiques. **\$2** rvmgf **\$0** (CaQQLa)RVMGF-000001105
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 655 7 Online-Publikation **\$0** (DE-836)32228 **\$2** swd
 710 2 Harvard University. **\$b** Graduate School of Business Administration.
 710 2 Harvard Business School. **\$1** <https://id.oclc.org/worldcat/entity/E39QH7JmqGgmCwkg4pgkJgMGTR>
 776 1 **\$t** Business history review **\$x** 0007-6805 **\$w** (DLC) 30008718 **\$w** (OCoLC)5984700
 780 0 0 **\$t** Bulletin of the Business Historical Society (Online) **\$x** 2326-5140 **\$w** (DLC) 2004235688 **\$w** (OCoLC)50594031
 850 DLC
 856 4 0 **\$u** <https://www.cambridge.org/core/journals/business-history-review>
 856 4 0 **\$u** <https://www.jstor.org/journal/busihistrevi>
 856 4 0 **\$u** <http://bibpurl.oclc.org/web/19557> **\$u** <http://www.hbs.edu/bhr/> **\$7** 0
 856 4 0 **\$3** HathiTrust Digital Library Limited view (search only) **\$u** <http://catalog.hathitrust.org/api/volumes/oclc/5984700.html>
 029 1 AU@ **\$b** 000024299916
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 029 1 AU@ **\$b** 000043817438
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 029 1 NZ1 **\$b** 16239409
 029 1 NZ1 **\$b** 16290403
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 029 1 OCLCS **\$b** 23732
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ATTACHMENT 6B

MARC record

LC control no.: sh 85018269

LCCN

Permalink: <https://lccn.loc.gov/sh85018269> (link opens in a new tab)

000 00397cz a2200145n 4500

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003 DLC

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010 \$a sh 85018269

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999 f f \$i c9c37a96-3c75-41d3-b0a8-9a166652131d \$s 80218dd5-734b-47a1-8cbe-a7c600b78db1

ATTACHMENT 6C

MARC record

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035 \$a (DLC)17591

040 \$a DLC \$c DLC \$d DLC

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450 \$a Trade

550 \$w g \$a Economics

550 \$w g \$a Management

550 \$a Commerce

550 \$a Industrial management

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ATTACHMENT 6D

MARC record

LC control
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LCCN
Permalink: <https://lcn.loc.gov/sh85061212> (link opens in a new tab)

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150 \$a History
\$i subdivision \$a History \$i under names of countries, cities, etc., and individual
360 corporate bodies, uniform titles of sacred works, classes of persons, ethnic groups,
and topical headings
450 \$a Annals
550 \$a Auxiliary sciences of history
999 f f \$i 300139ee-a8fd-478b-b11e-7a33c7f62e78 \$s 6c7c5529-b257-49e4-923e-
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ATTACHMENT 7A

Bibliographic Record - OCLC Number: 1787937

LDR	Record Status	'c' - Corrected or revised
	Type of Record	'a' - Language material
	Bibliographic Level	's' - Serial
	Type of Control	' ' - No specified type of control
	Encoding Level	' ' - Full level
	Descriptive Cataloging Form	' ' - Non-ISBD
001	1787937	
005	20241208222322.6	
008	Date Entered on File	'731108'
	Type of Date/Publication Status	'c' - Continuing resource currently published
	Date1/Beginning Date of Publication	'1973'
	Date2/Ending Date of Publication	'9999'
	Place of Publication, Production, or Execution Code	'ne ' - Netherlands
	Frequency	'm' - Monthly
	Regularity	'r' - Regular
	Type of Continuing Resource	'p' - Periodical
	Form of Original Item	' ' - None of the following
	Form of Item	' ' - None of the following
	Nature of Entire Work	' ' - No specified nature of entire work
	Nature of Contents	's ' -
	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Original Alphabet or Script of Title	'a' - Basic Roman
	Entry Convention	'0' - Successive entry
	Language Code	'eng' - English
	Modified Record	' ' - Record is not modified
	Cataloging Source Code	' ' - National bibliographic agency
010	73645248	
040	DLC \$b eng \$c DLC \$d OCL \$d NSD \$d OCL \$d NSD \$d DLC \$d NST \$d RCS \$d AIP \$d NST \$d AIP \$d HUL \$d AIP \$d NST \$d AIP \$d DLC \$d NST \$d DLC \$d AGL \$d NSD \$d NST \$d NSD \$d NST \$d NSD \$d DLC \$d AGL \$d CUS \$d SYS \$d NLM \$d IUL \$d OCLCQ \$d DLC \$d NLGGC \$d LVB \$d NYDWH \$d CIT \$d OCLCQ \$d OCLCF \$d BEDGE \$d P4I \$d OCLCO \$d DLC \$d TULIB \$d OCLCO \$d OCLCQ \$d NLC \$d CSJ \$d L2U \$d OCLCQ \$d CSA \$d OCLCQ \$d CPO \$d OCLCQ \$d DCHUA \$d CGU \$d UKNRU \$d OCLCQ \$d NUI	
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022 0	0305-750X \$l 0305-750X \$2 z	
030	WODEDW	

032 007604 **\$b** USPS
 037 **\$b** (Maxwell Scientific International Inc.) Fairview Park, Elmsford, NY 10523
 042 pcc **\$a** nsdp
 043 d-----
 050 0 0 HC4 **\$b** .W66
 082 0 4 338/.09/04
 210 0 World dev.
 222 0 World development
 245 0 0 World development.
 260 Oxford, Eng., **\$a** New York, **\$b** Pergamon Press.
 264 3 1 **\$3** <Jan. 2014->: **\$a** Amsterdam : **\$b** Elsevier
 300 volumes **\$b** illustrations **\$c** 29 cm
 310 Monthly, **\$b** <July 2003->
 336 text **\$b** txt **\$2** rdacontent
 337 unmediated **\$b** n **\$2** rdamedia
 338 volume **\$b** nc **\$2** rdacarrier
 362 0 v. 1- Feb. 1973-
 530 Also issued via World Wide Web by subscription through ScienceDirect (Online service).
 650 0 Economic history **\$y** 1990- **\$v** Periodicals.
 650 0 Economic assistance **\$z** Developing countries **\$v** Periodicals.
 651 0 Developing countries **\$x** Economic conditions **\$v** Periodicals.
 650 1 Economic history **\$y** 1990- **\$v** Periodicals.
 650 1 Economic assistance **\$z** Developing countries **\$v** Periodicals.
 651 1 Developing countries **\$x** Economic conditions **\$v** Periodicals.
 650 6 Histoire économique **\$y** 1945- **\$v** Périodiques.
 650 6 Aide économique **\$v** Périodiques.
 651 6 Pays en voie de développement **\$v** Périodiques.
 650 7 world. **\$2** ascl **\$0** (NL-LeOCL)294944699
 650 7 development. **\$2** ascl **\$0** (NL-LeOCL)294907645
 650 7 economic development. **\$2** ascl **\$0** (NL-LeOCL)294908994
 650 7 83.40 international economics: general. **\$0** (NL-LeOCL)077607198 **\$2** bcl
 650 7 Pays en développement. **\$2** eclas
 650 7 Mensuels. **\$2** eclas
 650 7 Histoire économique. **\$2** eclas
 650 7 Données statistiques. **\$2** eclas
 650 7 Conditions économiques. **\$2** eclas
 650 7 Aide économique. **\$2** eclas
 650 7 Economic assistance. **\$2** fast **\$0** (OCoLC)fst00901592
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 648 7 Since 1990 **\$2** fast
 650 1 7 Internationale economie. **\$2** gtt
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 650 1 7 DEVELOPMENT. **\$2** unbist

653 Economics Geopgraphy

655 7 Periodicals. \$2 fast \$0 (OCOLC)fst01411641

776 0 8 \$i Online version: \$t World development (Online) \$w (DLC) 2003238045 \$w (OCOLC)39183137

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776 0 8 \$i Online version: \$t World development \$x 0305-750X \$w (DLC) 73645248 \$w (OCOLC)137342969

780 0 0 \$t New commonwealth & world development \$w (DLC) 86650636 \$w (OCOLC)1776064

850 AAP \$a CSt \$a CU-I \$a CaBVaU \$a CaMWU \$a CaMWUC \$a CaOKR \$a CtU \$a DLC \$a DeU \$a FU \$a GU \$a ICU \$a ICRL \$a INS \$a IaAS \$a InLP \$a KyLoU \$a LU \$a MChB \$a MH-KG \$a MH-PA \$a MShM \$a MU \$a MWelC \$a MiU \$a MnSU \$a MnU \$a MoKU \$a MsU \$a NN \$a NNStJ \$a NcRS \$a NcWsW \$a OrCS \$a PPD \$a PPIU \$a RPB \$a TU \$a TxDaM \$a TxLT \$a ViBibV \$a ViU \$a ViW \$a VtU

856 4 1 \$u <http://www.sciencedirect.com/science/journal/0305750X>

891 2 0 \$9 853 \$8 1 \$a v. \$b no. \$i (year) \$j (month)

891 4 1 \$9 863 \$8 1.1 \$a 1 \$i 1973 \$j 02

029 1 AU@ \$b 000001044895

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ATTACHMENT 7B

MARC record

LC control no.: sh2008102577

LCCN

Permalink: <https://lcn.loc.gov/sh2008102577> (link opens in a new tab)

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001	sh2008102577
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008	080208 anannbabn n ana
010	\$a sh2008102577
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040	\$a DLC \$b eng \$c DLC
150	\$a Economic history \$y 1990- \$v Periodicals
667	\$a Record generated for validation purposes.
670	\$a Work cat.: Country by country, c2000-
999 f f	\$i 2e131a2f-fc91-4bfd-8b1d-29732fd59fd9 \$s 308a6fa2-78a8-46a8-8076-db09170fb20e

ATTACHMENT 7C

MARC record

LC control no.: sh2008118612

LCCN Permalink: <https://lccn.loc.gov/sh2008118612> (link opens in a new tab)

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150	\$a Economic assistance \$z Developing countries \$v Periodicals
667	\$a Record generated for validation purposes.
670	\$a Work cat.: World Bank policy research bulletin, 1990-[2002]
999 f f	\$i dc6a4218-29f7-4d56-9d8c-0ca6cb542b85 \$s 0e771ea3-4f26-497a-aac3-492a733af57a

ATTACHMENT 7D

MARC record

LC control no.: sh2008114843

LCCN

Permalink:

<https://lccn.loc.gov/sh2008114843> (link opens in a new tab)

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ATTACHMENT 8A

Bibliographic Record - OCLC Number: 19068764

LDR	Record Status	'c' - Corrected or revised
	Type of Record	'a' - Language material
	Bibliographic Level	's' - Serial
	Type of Control	' ' - No specified type of control
	Encoding Level	' ' - Full level
	Descriptive Cataloging Form	'a' - AACR2
001	19068764	
005	20250920184400.7	
008	Date Entered on File	'890126'
	Type of Date/Publication Status	'c' - Continuing resource currently published
	Date1/Beginning Date of Publication	'1989'
	Date2/Ending Date of Publication	'9999'
	Place of Publication, Production, or Execution Code	'enk' - England
	Frequency	'w' - Weekly
	Regularity	'n' - Normalized irregular
	Type of Continuing Resource	'p' - Periodical
	Form of Original Item	' ' - None of the following
	Form of Item	' ' - None of the following
	Nature of Entire Work	' ' - No specified nature of entire work
	Nature of Contents	' '
	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Original Alphabet or Script of Title	'a' - Basic Roman
	Entry Convention	'0' - Successive entry
	Language Code	'eng' - English
	Modified Record	' ' - Record is not modified
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032 445740 **\$b** USPS
 037 **\$b** American Institute of Physics, Dept. N/M, 335 E. 45 St., New York, NY 10017
 041 0 eng **\$a** fre **\$a** ger
 042 pcc **\$a** nsdp
 050 0 0 QC173.4.C65 **\$b** J68
 210 0 J. phys., Condens. matter
 222 0 Journal of physics. Condensed matter
 245 0 0 Journal of physics. **\$p** Condensed matter : **\$b** an Institute of Physics journal.
 246 3 0 Condensed matter
 260 Bristol, UK : **\$b** IOP Pub., **\$c** ©1989-
 300 volumes : **\$b** illustrations ; **\$c** 26 cm
 310 Weekly (50 issues yearly), **\$b** <2003->
 321 Weekly (51 issues yearly)
 336 text **\$b** txt **\$2** rdacontent
 337 unmediated **\$b** n **\$2** rdamedia
 338 volume **\$b** nc **\$2** rdacarrier
 362 0 Vol. 1, no. 1 (9 Jan. 1989)-
 500 Title from cover.
 510 2 Chemical abstracts **\$x** 0009-2258 **\$b** 1989-
 525 Special issues accompany some volumes.
 546 English, French, and German.
 550 Published in association with: American Institute of Physics.
 580 Liquids section also available as a separate journal: Liquids.
 580 Formed by the union of: Journal of physics C: Solid state physics, and: Journal of physics. F, Metal physics.
 588 Latest issue consulted: Vol. 11, no. 10A (15 Mar. 1999).
 650 0 Condensed matter **\$v** Periodicals.
 650 1 Condensed matter **\$v** Periodicals.
 650 0 4 periodika **\$x** NPA **\$x** ELTE
 650 6 Matière condensée **\$v** Périodiques.
 650 7 33.60 condensed matter: general. **\$0** (NL-LeOCL)07759570X **\$2** bcl
 650 7 Condensed matter. **\$2** fast **\$0** (OCoLC)fst00874443
 650 1 7 Vaste stoffen. **\$2** gtt
 650 1 7 Vloeistoffen. **\$2** gtt
 650 1 7 Natuurkunde. **\$2** gtt
 655 4 Computer network resources.
 655 7 Periodicals. **\$2** fast **\$0** (OCoLC)fst01411641
 655 7 Periodicals. **\$2** lcgft **\$0** <http://id.loc.gov/authorities/genreForms/gf2014026139> **\$0** (uri) <http://id.loc.gov/authorities/genreForms/gf2014026139>
 710 2 Institute of Physics (Great Britain) **\$1** <https://id.oclc.org/worldcat/entity/E39QQPVp7WBkMkhxmdbXRchVRg>
 710 2 American Institute of Physics. **\$1** <https://id.oclc.org/worldcat/entity/E39QH7Jmt4Pmkvj8gdHvCc3FhR>
 776 1 **\$t** Journal of physics. Condensed matter (Online) **\$w** (DLC)sn 96036190 **\$w** (OCoLC)34482386
 776 0 8 **\$i** Online version: **\$t** Journal of physics. Condensed matter **\$w** (OCoLC)609535687

776 0 8 **\$i** Online version: **\$t** Journal of physics. Condensed matter **\$w** (OCoLC)609535717
 776 0 8 **\$i** Online version: **\$t** Journal of physics. Condensed matter **\$w** (OCoLC)609535767
 780 1 4 **\$t** Journal of physics. F, Metal physics **\$x** 0305-4608 **\$w** (DLC) 72626104 **\$w** (OCoLC)851001
 780 1 4 **\$t** Journal of physics C: Solid state physics **\$x** 0022-3719 **\$w** (DLC) 73007955 **\$w** (OCoLC)17547
 39
 787 1 **\$t** Liquids
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 bV **\$a** ViU **\$a** ViW **\$a** WaU **\$a** WvU
 856 4 1 **\$u** <http://www.iop.org/Journals/cm>
 856 4 1 **\$u** <http://www.iop.org/EJ/S/3/190/?MIval=journal&key=0953-8984>
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 029 1 UKMGB **\$b** 008217136
 029 1 AU@ **\$b** 000078976078
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ATTACHMENT 9A

Bibliographic Record - OCLC Number: 3938336

LDR	Record Status	'c' - Corrected or revised
	Type of Record	'a' - Language material
	Bibliographic Level	's' - Serial
	Type of Control	' ' - No specified type of control
	Encoding Level	' ' - Full level
	Descriptive Cataloging Form	'a' - AACR2
001	3938336	
005	20250919152238.5	
008	Date Entered on File	'780530'
	Type of Date/Publication Status	'c' - Continuing resource currently published
	Date1/Beginning Date of Publication	'1965'
	Date2/Ending Date of Publication	'9999'
	Place of Publication, Production, or Execution Code	'nyu' - New York
	Frequency	'm' - Monthly
	Regularity	'r' - Regular
	Type of Continuing Resource	'p' - Periodical
	Form of Original Item	' ' - None of the following
	Form of Item	' ' - None of the following
	Nature of Entire Work	' ' - No specified nature of entire work
	Nature of Contents	' '
	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Original Alphabet or Script of Title	'a' - Basic Roman
	Entry Convention	'0' - Successive entry
	Language Code	'eng' - English
	Modified Record	' ' - Record is not modified
	Cataloging Source Code	' ' - National bibliographic agency
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040	DLC \$b eng \$c DLC \$d NSD \$d SER \$d NSD \$d AIP \$d DLC \$d AIP \$d OCL \$d NSD \$d N ST \$d HUL \$d NST \$d MYG \$d DLC \$d MYG \$d CUS \$d OCL \$d MYG \$d HNK \$d IEEEX \$d OCLCQ \$d LYU \$d OCLCQ \$d DLC \$d LVB \$d ZYU \$d NSD \$d BOS \$d OCLCQ \$d O CLCF \$d IUL \$d UMC \$d GILDS \$d UKMGB \$d OCLCL	
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082	0 4 621.34/05	
210	0 IEEE trans. magn.	

222 0 IEEE transactions on magnetics
 245 0 0 IEEE transactions on magnetics.
 246 3 Institute of Electrical and Electronics Engineers transactions on magnetics
 260 New York, N.Y. : **\$b** Published by the Institute of Electrical and Electronics Engineers for the Magnet
 ics Group, **\$c** ©1965-
 300 volumes : **\$b** illustrations, portraits ; **\$c** 28-29 cm
 310 Monthly, **\$b** 2005-
 321 Quarterly, **\$b** 1965-1974
 321 Bimonthly, **\$b** 1975-2004
 336 text **\$b** txt **\$2** rdacontent
 337 unmediated **\$b** n **\$2** rdamedia
 338 volume **\$b** nc **\$2** rdacarrier
 362 0 Vol. MAG-1, no. 1 (Mar. 1965)-
 500 Title from cover.
 510 2 Chemical abstracts **\$x** 0009-2258
 515 Issues for <Sept. 2003-> issued in 2 pts.
 530 Cumulative index for 1985-2000 also issued on CD-ROM.
 550 Issued by: IEEE Magnetism Group, 1965-1971; IEEE Magnetism Society, 1972-<2007>.
 555 Cumulative index: Vols. MAG-1 (1965)-MAG-10 (1974). 1 v.; v. MAG-11 (1975)-MAG-20 (1984). 1
 v.; 1985-2000. 1 v.
 580 Sept. issues, 1966- (the Nov. issue, 1988), and Dec. issues, 1968-1971, include papers from the annual
 Intermag Conference, formerly issued separately.
 588 Latest issue consulted: Vol. 43, no. 5 (May 2007).
 588 Latest issue consulted: Vol. 52, no. 12 (Dec. 2016) (surrogate).
 650 0 Magnetic devices **\$v** Periodicals.
 650 0 Magnetism **\$v** Periodicals.
 650 6 Dispositifs magnétiques **\$v** Périodiques.
 650 6 Substances magnétiques **\$v** Périodiques.
 650 7 Magnetic devices. **\$2** fast **\$0** (OCoLC)fst01005678
 650 7 Magnetism. **\$2** fast **\$0** (OCoLC)fst01005823
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 655 7 Periodicals. **\$2** lcgft
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 710 2 IEEE Magnetism Society. **\$1** <https://id.oclc.org/worldcat/entity/E39QQPVp7RhBYwd4DDXkjjvMJt>
 711 2 Intermag Conference.
 776 0 8 **\$i** Online version: **\$t** IEEE transactions on magnetism (Online) **\$x** 1941-0069 **\$w** (DLC) 200821290
 7 **\$w** (OCoLC)44580412
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ATTACHMENT 9B

MARC record

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LCCN

Permalink: <https://lccn.loc.gov/sh85079698> (link opens in a new tab)

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035 \$a (DLC)sp 85079698

035 \$a (DLC)414885

040 \$a DLC \$c DLC \$d DLC

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150 \$a Magnetic devices

550 \$w g \$a Electrical engineering \$x Equipment and supplies

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ATTACHMENT 9C

MARC record

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ATTACHMENT 10A

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	Date1/Beginning Date of Publication	'1965'
	Date2/Ending Date of Publication	'9999'
	Place of Publication, Production, or Execution Code	'nyu' - New York
	Frequency	'm' - Monthly
	Regularity	'r' - Regular
	Type of Continuing Resource	'p' - Periodical
	Form of Original Item	' ' - None of the following
	Form of Item	' ' - None of the following
	Nature of Entire Work	' ' - No specified nature of entire work
	Nature of Contents	' '
	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Original Alphabet or Script of Title	'a' - Basic Roman
	Entry Convention	'0' - Successive entry
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016	7 009845015 \$2 Uk	
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082	0 4 621.34/05	
210	0 IEEE trans. magn.	

222 0 IEEE transactions on magnetics
 245 0 0 IEEE transactions on magnetics.
 246 3 Institute of Electrical and Electronics Engineers transactions on magnetics
 260 New York, N.Y. : **\$b** Published by the Institute of Electrical and Electronics Engineers for the Magnet
 ics Group, **\$c** ©1965-
 300 volumes : **\$b** illustrations, portraits ; **\$c** 28-29 cm
 310 Monthly, **\$b** 2005-
 321 Quarterly, **\$b** 1965-1974
 321 Bimonthly, **\$b** 1975-2004
 336 text **\$b** txt **\$2** rdacontent
 337 unmediated **\$b** n **\$2** rdamedia
 338 volume **\$b** nc **\$2** rdacarrier
 362 0 Vol. MAG-1, no. 1 (Mar. 1965)-
 500 Title from cover.
 510 2 Chemical abstracts **\$x** 0009-2258
 515 Issues for <Sept. 2003-> issued in 2 pts.
 530 Cumulative index for 1985-2000 also issued on CD-ROM.
 550 Issued by: IEEE Magnetism Group, 1965-1971; IEEE Magnetism Society, 1972-<2007>.
 555 Cumulative index: Vols. MAG-1 (1965)-MAG-10 (1974). 1 v.; v. MAG-11 (1975)-MAG-20 (1984). 1
 v.; 1985-2000. 1 v.
 580 Sept. issues, 1966- (the Nov. issue, 1988), and Dec. issues, 1968-1971, include papers from the annual
 Intermag Conference, formerly issued separately.
 588 Latest issue consulted: Vol. 43, no. 5 (May 2007).
 588 Latest issue consulted: Vol. 52, no. 12 (Dec. 2016) (surrogate).
 650 0 Magnetic devices **\$v** Periodicals.
 650 0 Magnetism **\$v** Periodicals.
 650 6 Dispositifs magnétiques **\$v** Périodiques.
 650 6 Substances magnétiques **\$v** Périodiques.
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 650 7 Magnetism. **\$2** fast **\$0** (OCoLC)fst01005823
 655 7 Periodicals. **\$2** fast **\$0** (OCoLC)fst01411641
 655 7 Periodicals. **\$2** lcgft
 710 2 Institute of Electrical and Electronics Engineers. **\$b** Magnetism Group.
 710 2 IEEE Magnetism Society. **\$1** <https://id.oclc.org/worldcat/entity/E39QQPVp7RhBYwd4DDXkjjvMJt>
 711 2 Intermag Conference.
 776 0 8 **\$i** Online version: **\$t** IEEE transactions on magnetism (Online) **\$x** 1941-0069 **\$w** (DLC) 200821290
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ATTACHMENT 11A

Bibliographic Record - OCLC Number: 1939196

LDR	Record Status	'c' - Corrected or revised
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	Bibliographic Level	's' - Serial
	Type of Control	' ' - No specified type of control
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	Date1/Beginning Date of Publication	'1965'
	Date2/Ending Date of Publication	'9999'
	Place of Publication, Production, or Execution Code	'ja ' - Japan
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	Regularity	'x' - Completely irregular
	Type of Continuing Resource	'p' - Periodical
	Form of Original Item	' ' - None of the following
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	Nature of Entire Work	' ' - No specified nature of entire work
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	Conference Publication	'0' - Not a conference publication
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 246 1 3 FSTJ \$f <Apr. 2008->
 246 3 Fujitsu scientific and technical journal
 246 3 0 Scientific & technical journal
 246 3 Scientific and technical journal
 260 Kawasaki City, Kanagawa, Japan : \$b Fujitsu Ltd., \$c [1965?]-
 300 volumes : \$b illustrations ; \$c 21-30 cm
 310 Quarterly, \$b <Apr. 2008->
 321 Frequency varies, \$b 1965-
 321 Two no. a year, \$b <1994->
 336 text \$b txt \$2 rdacontent
 337 unmediated \$b n \$2 rdamedia
 338 volume \$b nc \$2 rdacarrier
 362 0 Vol. 1, no. 1 (Apr. 1965)-
 500 The Journal is published ... to report the results of research by Fujitsu Limited, Fujitsu Laboratories Lt
 d. and associated companies in communications, electronics and allied fields, and to promote internatio
 nalexchange of such information.
 510 2 Chemical abstracts \$x 0009-2258 \$b -1991
 530 Also issued online; beginning in 1997 some issues only available online.
 530 Also issued online.
 588 Latest issue consulted: Vol. 44, no. 2 (Apr. 2008).
 650 0 Electrical engineering \$v Periodicals.
 650 7 Electrical engineering. \$2 fast \$0 (OCoLC)fst01728596
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 710 2 Fujitsu Kenkyūjo. \$1 <https://id.oclc.org/worldcat/entity/E39QH7JmqgkFHxDmvqqGC9d6g>
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 776 0 8 \$i Online version: \$t Fujitsu scientific & technical journal \$w (OCoLC)557747053
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 856 4 1 \$u <http://www.fujitsu.co.jp/hypertext/Publish/tech/index.html>
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ATTACHMENT 11B

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ATTACHMENT 12A

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008	Date Entered on File	'890227'
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	Date2/Ending Date of Publication	'9999'
	Place of Publication, Production, or Execution Code	'nyu' - New York
	Illustrations	'mp '
	Target Audience	' ' - Unknown or unspecified
	Form of Item	' ' - None of the following
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	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Festschrift	'0' - Not a festschrift
	Index	'0' - No index
	Literary Form	'0' - Not fiction
	Biography	' ' - No biographical material
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080	53	
082	0 4 530 PHYSICAL	
222	0 Physical review letters.	
245	0 0 Physical review letters.	
260	Melville, NY : \$b American Physical Society.	
310	Semimonthly	
336	text \$b txt \$2 rdacontent	
337	unmediated \$b n \$2 rdamedia	
500	One copy of 2002, June Vol. 88 no. 26, was Never Published.	
510	0 Index available from 1996	
936	BATCHLOAD	