

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CURRENT LIGHTING SOLUTIONS, LLC d/b/a GE CURRENT,
Petitioner,

v.

JIAXING SUPER LIGHTING ELEC. APPLIANCE CO., LTD.,
Patent Owner.

United States Patent No. 9,939,140
Issued: April 10, 2018
Filed: October 31, 2016

Title: LED TUBE LAMP

DECLARATION OF SYLVIA D. HALL-ELLIS, PH.D.

I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by Current Lighting Solutions, LLC d/b/a GE Current (the “client”).

2. I have written this Declaration at the request of the client to provide my expert opinion regarding the authenticity and public availability of two journal 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 of \$325 per hour, 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 and Information Science from the University of Pittsburgh in 1985. Over the last fifty 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 CORE Division, and I served on the Committee on Cataloging: Resource and Description (which wrote the new cataloging rules) and as the founding 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, the Chair for the ALA Office of Diversity's Committee on Diversity, a member of the national Board of Directors for REFORMA, a member of the Editorial Board for the ALCTS premier cataloging journal, *Library Resources and Technical Services*, and a co-chair of the Membership Committee for the Library Research Round Table (LRRT). Currently I serve as member of the LRRT Nominating 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 an Appendix to this Declaration.

III. LIBRARY CATALOGING PRACTICES

10. 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.²

¹ The full text of the standard is available from the Library of Congress at <http://www.loc.gov/marc/bibliographic/>.

² Almost every major library in the world is MARC-compatible. *See, e.g., MARC Frequently Asked Questions (FAQ)*, Library of Congress, <https://www.loc.gov/marc/faq.html> (last visited March 2, 2023) (“MARC is the acronym for MACHine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative that began nearly fifty years 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 (reaffirmed 2016) standard for Information Interchange Format.

11. 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 recorded in field 100, an item's International Standard Book Number ("ISBN") is recorded in field 020, an item's International Standard Serial Number ("ISSN") is recorded in field 022, an item's Library of Congress call number is recorded in field 050, and the publication date is recorded in field 260 under the subfield "c." 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.

12. 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 in order to identify the institution that created the MARC record.³

³ <https://www.oclc.org/en/contacts/libraries.html>.

13. MARC records also include several fields that include subject matter classification information. An overview of MARC record fields is available through the Library of Congress.⁴ For example, 6XX fields are termed “Subject Access Fields.”⁵ Among these, for example, is the 650 field; this is the “Subject Added Entry – Topical Term” field.⁶ 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)).” Further, MARC records include call numbers, which themselves include a classification number. For example, the 050 field is the “Library of Congress Call Number.”⁷ A defined portion of the Library of Congress Call Number is the classification number, and the “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. 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

⁴ <http://www.loc.gov/marc/bibliographic/>.

⁵ <http://www.loc.gov/marc/bibliographic/bd6xx.html>.

⁶ <http://www.loc.gov/marc/bibliographic/bd650.html>.

⁷ <http://www.loc.gov/marc/bibliographic/bd050.html>.

classification number, it appears as part of the 050 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.

14. 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.”⁸ Among other services, OCLC and its members are responsible for maintaining the WorldCat database,⁹ used by independent and institutional libraries throughout the world.

15. 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

⁸ 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>).

⁹ <http://www.worldcat.org/>.

system in the ordinary course of its business. MARC records created at the Library of Congress are directly uploaded or may be 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 a participating institution, 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 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.

16. 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, or shortly after 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). Field 005 is visible when viewing a MARC record via an appropriate computerized interface, but when a MARC record is printed to hardcopy, no "005" label appears. The initial field 005 date (*i.e.*, the date the MARC record was created) does appear, however, next to the label "Entered."¹⁰ The date upon which the most recent update to field 005 occurred also appears, next to the label "Replaced." Thus, when an item's MARC record has been printed to hardcopy—as is the case with the exhibits to this Declaration—the date reflected next to the label "Entered" is necessarily on or after the date the library first cataloged and indexed the underlying item.

17. 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

¹⁰ In this Declaration, I sometimes refer to the "Entered" entry as Field 008, characters 00-05. Field 005 is visible when viewing a MARC record via an appropriate computerized interface. But when a MARC record is printed directly to hardcopy from the OCLC database, the "005" label is not shown. The date in the 005 field instead appears next to the label "Replaced."

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).

18. 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 to libraries come from a jobber or wholesaler for online and print resources. These resellers make it their business to provide books 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 directly from publishers themselves, which provide delivery on a similarly expedited schedule. In general, libraries make these purchases throughout the year as the books are published and shelve the books as soon thereafter as possible in order to make the books available to their patrons. Thus, books are generally available at libraries across the country within just a few days of publication.

19. 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 MARC records for more than 320 million 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 or volume of the monographic serial 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. MARC records for serial publications represent the entire run of the title. With knowledge of the first issue or volume published, future issues or volumes 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 time of its cessation. If a subscription to a serial publication ends or is cancelled, the library will denote that it has stopped receiving new issues or volumes by filling in the end date in the MARC record.

20. 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 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 each 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 issues were frequently stamped again to acknowledge receipt. The new issue was placed in the public area; the older issue was stored so that it remained available.

21. 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 stamping 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 each of the serial publications discussed below.

22. 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.

23. *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 the 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.

24. 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.

25. 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.

26. 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.

IV. PRELIMINARIES

27. *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 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 March 10, 2015.

28. 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.

29. 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 exercising reasonable diligence (*i.e.*, I understand that cataloging and indexing by a library in a manner that permits a person of ordinary skill in the relevant subject matter to locate the publication 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.

30. 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.

31. *Persons of ordinary skill in the art.* I am told by counsel that the subject matter of this proceeding relates generally to electrical engineering, and more specifically, the field of lighting fixtures.

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

33. I am told by counsel that persons of ordinary skill in this subject matter or art would have had at least a bachelor’s degree in electrical engineering or a comparable field and 3 years of experience designing lighting fixtures or systems or equivalents, though more education could have compensated for less experience and vice versa.

34. 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. Certainly in early 2015 such a person would have had access to a vast array of long-established print resources in electrical engineering as well as to a rich set of online resources providing indexing information, abstracts, and full text services for such references, including those that relate to lighting fixtures.

35. Based on my experience working in research libraries with researchers having the qualifications described above, or even lesser qualifications, it is my opinion that such researchers would have been able to locate the material discussed herein on their own or with the assistance of a research librarian with relative ease using the tools and resources described herein.

V. PUBLICATIONS

A. Document 1: Exhibit 1016, “Light Emitting Diodes: Exploration of Underlying Physics,” by E. Etkina and G. Planinši (“Etkina”)

36. Attached hereto as Exhibit 1016 is a copy of the journal article, “Light Emitting Diodes: Exploration of Underlying Physics” by Eugenia Etkina and Gorazd Planinši (hereafter “Etkina”). The Etkina article was published in volume 52, issue 4 of the journal *The Physics Teacher*, which is available at the University of Houston Libraries (Houston, Texas). See my paragraphs 37 and 38, below. Exhibit 1016 is a true and correct copy of the Etkina article. 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.

37. Attached hereto as Attachment 1A is a true and correct copy of the MARC record for the journal *The Physics Teacher* at the University of Houston Libraries online catalog. The library ownership is indicated by the presence of the library's code ("TXHU") in field 049. The library continues to update and enhance the MARC record to meet current cataloging rules. The most recent enhancement to Attachment 1A occurred on October 28, 2020, as shown in field 005 ("20201028"). I personally retrieved the MARC record that is Attachment 1A.

38. As noted in the holdings information (362 field), the University of Houston Libraries has received the journal *The Physics Teacher* from 1963 and continues to receive the publication. In view of the MARC record for Exhibit 1016, the Etkina article was publicly available on or shortly after April 2014, because the serial title had been received, cataloged, and indexed at the University of Houston Libraries and made part of its online catalog database. Beyond that, the MARC record includes, in its field 949, a specific reference to volume 52 of *The Physics Teacher* ("Sc v.52"), which includes the notation "\$lclstk." In my opinion, this means that volume 52 of *The Physics Teacher*, including the Etkina article, was timely received by and is currently available from the University of Houston Libraries' local stacks. Based on finding a print copy of the Etkina article in the University of Houston Libraries in view of a MARC record in its online library

catalog attached as Attachment 1A, it is my opinion that the Etkina article published in the journal *The Physics Teacher* was publicly available on or shortly after April 2014 as shown in that article's footer.

39. Attachment 1A also shows that the Etkina article was catalogued with descriptor term reading "Physics \$x Study and teaching \$v Periodicals" (see Attachment 1B, Library of Congress subject heading sh85101667 and Attachment 1C, Library of Congress subject heading sh85099890) in the 650 field.

40. Further, attached hereto as Attachment 1D is a true and correct copy of the MARC record for the journal *The Physics Teacher* 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 1D, 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 the "Entered" field in the MARC record for this exhibit, a cataloger at the Library of Congress created OCLC record number 1715336 on October 19, 1975, as shown in the "Entered" field ("29751019"). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 1D occurred on August 6, 2022, as shown in the "Replaced" field ("20220806"). I personally identified and retrieved the MARC record that is Attachment 1D.

41. The "BLvl" entry in Attachment 1D is "s," which indicates that the

journal *The Physics Teacher* is a serial publication. Field 310 of Attachment 1D reads “Monthly (Sept.-May).”¹¹ Accordingly, the MARC record for Exhibit 1006 corresponds to the journal *The Physics Teacher* from the time the serial title began and includes the date of the Etkina article.

42. Attachment 1D includes an entry in field 050 (“QC30 \$b .P48”)—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/.07/1”)—as described above, a subject matter classification number consistent with the Dewey Decimal classification system. Attachment 1D further includes a descriptor term reading “Physics \$x Study and teaching \$v Periodicals” (see Attachment 1B, Library of Congress subject heading sh85101667 and Attachment 1C, Library of Congress subject heading sh85099890) in the 650 field.

43. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 1D was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry,

¹¹ The journal *The Physics Teacher* was published monthly during the traditional school year and, therefore, new issues were available approximately every 30 days. Based on the frequency of publication (see Attachment 1D, field 310) and my years of experience working with serials, it is my opinion that issues would be published by the end of the month. Therefore, a public availability date of no later than April 30, 2014, is reasonable.

the field 082 entry, and the field 650 entry. As of October 19, 1975, the MARC record attached hereto as Attachment 1D 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.

44. Attachment 1D indicates that the journal *The Physics Teacher* as cataloged at the Library of Congress is currently available from 1,017 libraries. In view of the above, this issue of the journal *The Physics Teacher* was publicly available on or shortly after April 30, 2014, because by that date it had been cataloged and indexed at the Library of Congress, made part of the OCLC bibliographic database, and received at the University of Houston Libraries. For these reasons, it is my opinion that Exhibit 1016 was published and accessible to the public on or shortly after April 30, 2014.

B. Document 2: Exhibit 1018, “Ring Oscillators: Characteristics and applications” by M. K. Mandal and B. C. Sarkar (“Mandal”)

45. Attached hereto as Exhibit 1018 which is a copy of the journal article “Ring Oscillators: Characteristics and Applications” by M. K. Mandal and B. C. Sarkar (hereafter “Mandal”). The Mandal article was published in volume 48 of the *Indian Journal of Pure & Applied Physics*, which is available at the Texas A&M University Libraries (College Station, Texas). See my paragraphs 45 and 46, below.

Exhibit 1018 is a true and correct copy of the Mandal article. 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.

46. Attached hereto as Attachment 2A is a true and correct copy of the MARC record for the *Indian Journal of Pure & Applied Physics* at the Texas A&M University Libraries online catalog. The library ownership is indicated by the presence of the library's code ("TXAM") in field 049. The library continues to update and enhance the MARC record to meet current cataloging rules. The most recent enhancement to Attachment 2A occurred on September 28, 2017, as shown in field 005 ("20170928"). I personally identified and retrieved the MARC record that is Attachment 2A.

47. As noted in the holdings information (362 field), the Texas A&M University Libraries has received issues of the *Indian Journal of Pure & Applied Physics* from 1963 and continues to receive the publication. In view of the MARC record for Attachment 2A, the Mandal article was publicly available on or shortly after February 28, 2010, because the serial title had been received, cataloged, and indexed at the Texas A&M University Libraries and made part of its online catalog database. Beyond that, the MARC record includes, in its field, 952, specific references to volume 48 (Nos. 1-12, one for each month of the year) of the *Indian*

Journal of Pure & Applied Physics, which includes the notation “Remote Storage.”

In my opinion, this means that volume 48 of the *Indian Journal of Pure & Applied Physics*, including the Mandal article, was timely received by and is currently available from the Texas A&M University Libraries. This is confirmed by Attachment 2B, which is another printout from the Texas A&M University Libraries online catalog. Attachment 2B indicates that Nos. 1-12 of volume 48 (“v.48”) are “Available.” Based on finding a print copy of the Mandal article in the Texas A&M University Libraries in view of a MARC record in its online library catalog attached as Attachment 2A, it is my opinion that the Mandal article published in the *Indian Journal of Pure & Applied Physics* was publicly available on or shortly after February 28, 2010, as shown in that article’s header.

48. Attachment 2A also shows that the Mandal article was catalogued with two descriptor terms reading “Physics \$v Periodicals” (see Attachment 2C, Library of Congress subject heading sh2008109342) and “Engineering \$v Periodicals” (see Attachment 2D, Library of Congress subject heading sh85043188) in the 650 fields.

49. Further, attached hereto as Attachment 2E is a true and correct copy of the MARC record for the *Indian Journal of Pure & 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 2E, 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 the “Entered” field in the MARC record for this exhibit, a cataloger at the Library of Congress created OCLC record number 843065 on March 27, 1974, as shown in the “Entered” field (“19740327”). The library continues to update this MARC record and enhance the MARC record to meet current cataloging rules. The most recent enhancement to Attachment 2E occurred on August 24, 2021, as shown in the “Replaced” field (“20210824”). I personally identified and retrieved the MARC record that is Attachment 2E. The “BLvl” entry in Attachment 2c is “s,” which indicates that the *Indian Journal of Pure & Applied Physics* is a serial publication. Field 310 of Attachment 2E reads “Monthly.”¹² Accordingly, the MARC record for Attachment 2E corresponds to the *Indian Journal of Pure & Applied Physics* from the time the serial title began and includes the date of the Mandal article.

50. Attachment 2E includes an entry in field 050 (“QC1 \$b .I53”)—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/.05”)—as described above, a subject matter

¹² The journal the *Indian Journal of Pure & Applied Physics* was published monthly and, therefore, new issues were available approximately every 30 days. Based on the frequency of publication (see Attachment 2E, field 310) and my years of experience working with serials, it is my opinion that issues would be published by the end of the month. Therefore, a public availability date of no later than February 28, 2010, is reasonable.

classification number consistent with the Dewey Decimal classification system. Further, Attachment 2E also shows that the Mandal article was catalogued with two descriptor terms reading “Physics \$v Periodicals” (see Attachment 2C, Library of Congress subject heading sh2008109342) and “Engineering \$v Periodicals” (see Attachment 2D, Library of Congress subject heading sh85043188) in the 650 fields.

51. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 2E 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 March 27, 1974, the MARC record attached hereto as Attachment 2E 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.

52. Attachment 2E indicates that the *Indian Journal of Pure & Applied Physics* as cataloged at the Library of Congress is currently available from 194 libraries. In view of the above, this issue of the *Indian Journal of Pure & Applied Physics* was publicly available on or shortly after February 28, 2010, because by that date it had been cataloged and indexed at the Library of Congress and received at the Texas A&M University Libraries. For these reasons, it is my opinion that Exhibit

1018 was published and accessible to the public on or shortly after February 28, 2010.

VI. CONCLUSION

53. 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.

54. 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, under Section 1001 of Title 18 of the United States Code.

Dated: March 21, 2023

Respectfully submitted,



Sylvia D. Hall-Ellis, Ph.D.

Attachment 1A

- Contact Us
- My Accounts
- Give to UH Libraries

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035 ##$a(OCOLC)1715336 $9ExL
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090 ##$aQC30 .P48
210 0#$aPhys. teach.
222 #4$aThe Physics teacher.
245 04$aThe Physics teacher.
264 #1$a[Stony Brook, New York, etc.] : $b[American Association of Physics Teachers]
300 ##$avolume : $billustrations, portraits ; $c29 cm.
310 ##$aMonthly (Sept.-May)
336 ##$atext $btxt $2rdacontent.
337 ##$aunmediated $bn $2rdamedia.
338 ##$avolume $bnc $2rdacarrier.
362 0#$av. 1- Apr. 1963-
510 0#$aEducation index $x0013-1385.
510 2#$aChemical abstracts $x0009-2258.
510 0#$aCurrent index to journals in education $x0011-3565.
530 ##$aAvailable on microfilm.
590 ##$aUHCL has: v.1 (1963) - v.27 (1989), v.28:no.1 (1990) - v.28:no.2 (1990), v.28:no.4 (1990) - v.28:no.9 (1990), v.29 (1991) - v.5
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150 __ |a Physics |x Study and teaching

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LC control no.: sh 85099890

LCCN Permalink: <https://lcn.loc.gov/sh85099890>

HEADING: Periodicals

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040 __ |a DLC |c DLC |d DLC

053 _0 |a AP |c General periodicals

053 _0 |a PN4700 |b PN5650 |c History

150 __ |a Periodicals

360 __ |i subdivision |a Periodicals |i under specific subjects, e.g. |a Engineering--
Periodicals; United States--History--Periodicals

450 __ |a Journals (Periodicals)

450 __ |a Magazines

550 __ |w g |a Library materials

550 __ |w g |a Mass media

550 __ |w g |a Serial publications

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.

906 __ |t 0420 |u te03 |v 0

910 __ |a Proposal saved by tc03 on 05/14/2012 at 17:15:30

953 __ |a xx00 |b td14

906 __ |t 1206 |v 0

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Attachment 2A



Indian journal of pure & applied physics.

Previous Title:	Journal of scientific & industrial research. B, Physical sciences
Format:	Journal
Language:	English
Published:	New Delhi : Oxford ; New York : Council of Scientific & Industrial Research ; Pergamon Press [distributor, ©1963-
Subjects:	Physics > Periodicals. Engineering > Periodicals. Engineering. Physics. Periodicals.
Available Online:	Full Text  TAMU

Holdings

Description

Similar Items

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210	0		a Indian j. pure appl. phys.
222		0	a Indian journal of pure & applied physics
245	0	0	a Indian journal of pure & applied physics.
246	3		a Indian journal of pure and applied physics
264		1	a New Delhi : b Council of Scientific & Industrial Research ; a Oxford ; a New York : b Pergamon Press [distributor, c ©1963-
300			a volumes : b illustrations ; c 29 cm.
310			a Monthly
336			a text b txt 2 rdacontent
337			a unmediated b n 2 rdamedia
338			a volume b nc 2 rdacarrier
362	1		a Began with: Volume 1, number 1 (January 1963).
500			a Title from cover.

510	2		a Chemical abstracts x 0009-2258
550			a Issued by: National Institute of Science Communication in association with Indian National Science Academy, <2000- >
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776	0	8	i Online version: t Indian journal of pure & applied physics w (OCoLC)629926889
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952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.50:no.9-12 l 2012:Sept.-Dec. m A14842313380
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.23:no.7-12 l 1985:July-Dec. m A14812910860

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- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.21:no.7-12 |l 1983:July-Dec.
|m A14809948414
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.51:no.9 |l 2013:Sept. |m A14843064958
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.16:no.7-12 |l 1978:July-Dec.
|m A14809948317
-
- 952** f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.55:no.1-3 |l 2017:Jan.-Mar.
|m A14850349334
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.36:no.1-6 |l 1998:Jan.-June
|m A14824030252
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.52:no.1-4 |l 2014:Jan.-April
|m A14843064933
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- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.45:no.10-12 |l 2007:Oct.-Dec.
|m A14837296817
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.51:no.11-12 |l 2013:Nov.-Dec.
|m A14843064941
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.40:no.12 |l 2003:Jan.-June |m A14832172157
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.33:no.1-4 |l 1994:Jan.-Apr. |m A14820458432
-
- 952** f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.55:no.10-12 |l 2017:Oct.-Dec.
|m A14850399305
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.50:no.5-8 |l 2012:May-Aug.
|m A14842313398
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.32:no.9-12 |l 1994:Sept.-Dec.
|m A14819397835
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.6 |l 1968 |m A14809948139
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.7:no.7-12 |l 1969:July-Dec. |m A14809948155
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.18:no.7-12 |l 1980:July-Dec.
|m A14809948359
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952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.45:no.4-6 l 2007:Apr.-June m A14836460073
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.9:no.7-12 l 1971:July-Dec. m A14809948197
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.43:no.7-9 l 2005:July-Sept. m A14834637399
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.50:no.1-4 l 2012:Jan.-April m A14842313406
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.5 l 1967 m A14809948121
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.42:no.9-12 l 2004:Sept.-Dec. m A14832840093
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.48:no.1-4 l 2010:Jan.-April m A14839118578
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.10:no.7-12 l 1972:July-Dec. m A14809948210
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.44:no.10-12 l 2006:Oct.-Dec. m A14835883765
952	f	f	a Texas A&M University b Rellis Campus c Joint Library Facility d Remote Storage t 0 e QC1 .I53 h Library of Congress classification i unmediated -- volume k v.40:no.7-11 l 2002:July-Nov. m A14830946283

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.28:no.1-6 |l 1990:Jan.-June
|m A14815076754

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.26:no.7-12 |l 1988:July-Dec.
|m A14812057256

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.49:no.5-8 |l 2011:May-Aug.
|m A14842312226

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.15:no.1-6 |l 1977:Jan.-June
|m A14809948286

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.10:no.1-6 |l 1972:Jan.-June
|m A14809948202

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.21:no.1-6 |l 1983:Jan.-June
|m A14809948406

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.13:no.1-6 |l 1975:Jan.-June
|m A14809948244

952 f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.54:no.9-12 |l 2016:Sept.-Dec.
|m A14850349342

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.47:no.1-4 |l 2009:Jan.-Apr. |m A14838835517

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.30:no.1-6 |l 1992:Jan.-June
|m A14817248161

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- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.44:no.7-9 |l 2006:July-Sept.
|m A14835883804
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.22:no.7-12 |l 1984:July-Dec.
|m A14809948430
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.51:no.5-8 |l 2013:May-Aug.
|m A14842313364
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.14:no.7-12 |l 1976:July-Dec.
|m A14809948278
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.43:no.1-6 |l 2005:Jan.-June
|m A14833465668
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.17:no.7-12 |l 1979:July-Dec.
|m A14809948333
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.14:no.1-6 |l 1976:Jan.-June
|m A14809948260
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.7:no.1-6 |l 1969:Jan.-June |m A14809948147
-
- 952** f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.55:no.5-8 |l 2017:May-Aug.
|m A14850349565
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.8:no.1-6 |l 1970:Jan.-June |m A14809948163
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- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.13:no.7-12 |l 1975:July-Dec.
|m A14809948252
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- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.33:no.5-8 |l 1994:May-Aug.
|m A14820458482
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.16:no.1-6 |l 1978:Jan.-June
|m A14809948309
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- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.34:no.7-12 |l 1996:July-Dec.
|m A14821525494
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.8:no.7-12 |l 1970:July-Dec. |m A14809948171
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.42:no.1-5 |l 2004:Jan.-May |m A14833694055
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.28:no.7-12 |l 1990:July-Dec.
|m A14815069430
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.48:no.9-12 |l 2010:Sept.-Dec.
|m A14839510631
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.47:no.5-8 |l 2009:May-Aug.
|m A14839100282
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.46:no.1-4 |l 2008:Jan.-April
|m A14837296778
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- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.51:no.1-4 |l 2013:Jan.-April
|m A14842313372
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.26:no.1-6 |l 1988:Jan.-June
|m A14812050937
-
- 952** f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.53:no.5-8 |l 2015:May-Aug.
|m A14843320640
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.49:no.1-4 |l 2011:Jan.-April |m A14842312234
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.23:no.1-6 |l 1985:Jan.-June
|m A14809948448
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.15:no.7-12 |l 1977:July-Dec.
|m A14809948294
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.29:no.7-12 |l 1991:July-Dec.
|m A14816092850
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.41:no.1-6 |l 2003:Jan.-June
|m A14832162681
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.22:no.1-6 |l 1984:Jan.-June
|m A14809948422
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.49:no.9-12 |l 2011:Sept.-Dec.
|m A14842312218
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- 952** f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.54:no.5-8 |l 2016:May-Aug.
|m A14850085961
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.16:Index |l 1978 |m A14843221012
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.24:no.7-12 |l 1986:July-Dec.
|m A14809070473
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.19:no.1-6 |l 1981:Jan.-June
|m A14809948367
-
- 952** f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.53:no.9-12 |l 2015:Sept.-Dec.
|m A14843320632
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.31:no.5-8 |l 1993:May-Aug.
|m A14818826255
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.44:no.1-3 |l 2006:Jan.-Mar. |m A14835087822
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.44:no.4-6 |l 2006:Apr.-June
|m A14835087783
-
- 952** f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.54:no.1-4 |l 2016:Jan.-Apr.
|m A14850086134
-
- 952** f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.38:no.7-12 |l 2000:July-Dec.
|m A14827949696
-

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.42:no.6-8 |l 2004:June-Aug.
|m A14833796352

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.39:no.1/2-6 |l 2001:Jan./Feb.-June
|m A14829901945

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.12:no.1-6 |l 1974:Jan.-June
|m A14809948228

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.35:no.7-12 |l 1997:July-Dec.
|m A14824030202

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.46:no.5-8 |l 2008:May-Aug.
|m A14834762885

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.27:no.1-6 |l 1989:Jan.-June
|m A14812922029

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.37: no.1-6 |l 1999: Jan.-June
|m A14825980264

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.2 |l 1964 |m A14809947840

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.31:no.1-4 |l 1993:Jan.-Apr. |m A14818833715

952 f f |a Texas A&M University |b College Station |c Sterling C. Evans Library
|d Evans: Library Stacks |t 0 |e QC1 .I53 |h Library of Congress
classification |i unmediated -- volume |k v.53:no.1-4 |l 2015:Jan.-April
|m A14843320657

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.41:no.7-12 |l 2003:July-Dec.
|m A14831489917

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.40:no.1-6 |l 2002:Jan.-June
|m A14829901903

952 f f |a Texas A&M University |b Rellis Campus |c Joint Library Facility
|d Remote Storage |t 0 |e QC1 .I53 |h Library of Congress classification
|i unmediated -- volume |k v.43:no.10-12 |l 2005:Oct.-Dec.
|m A14834634579

998 f f |a QC1 .I53 |s v.55:no.1-3,5-8,10-12 (2017:Jan.-Mar.,May-Aug.,Oct.-Dec.)
|t 0 |l Evans: Library Stacks

998 f f |a QC1 .I53 |s v.52 (2014) |t 0 |l Remote Storage

Attachment 2B



Indian journal of pure & applied physics.

Previous Title:	Journal of scientific & industrial research. B, Physical sciences
Format:	Journal
Language:	English
Published:	New Delhi : Oxford ; New York : Council of Scientific & Industrial Research ; Pergamon Press [distributor, ©1963-
Subjects:	Physics > Periodicals. Engineering > Periodicals. Engineering. Physics. Periodicals.
Available Online:	Full Text  TAMU

[Holdings](#)
[Description](#)
[Similar Items](#)
[Staff View](#)

Evans: Library Stacks

Call Number:	QC1 .I53  Map it	
Indexes:	Index is bound in the back.	
Library Owns: QC1 .I53	(v.53-54 (2015-2016); v.55:no.1-3,5-8,10-12 (2017:Jan.-Mar.,May-Aug.,Oct.-Dec.))	
Call Number	Status	Get It
QC1 .I53 v.53:no.1-4 2015:Jan.-April	Available	Get It: 2 days
QC1 .I53 v.53:no.5-8 2015:May-Aug.	Available	Get It: 2 days

QC1 .I53 v.53:no.9-12 2015:Sept.-Dec.	Available	Get It: 2 days
QC1 .I53 v.54:no.1-4 2016:Jan.- Apr.	Available	Get It: 2 days
QC1 .I53 v.54:no.5-8 2016:May- Aug.	Available	Get It: 2 days
QC1 .I53 v.54:no.9-12 2016:Sept.-Dec.	Available	Get It: 2 days
QC1 .I53 v.55:no.1-3 2017:Jan.- Mar.	Available	Get It: 2 days
QC1 .I53 v.55:no.5-8 2017:May- Aug.	Available	Get It: 2 days
QC1 .I53 v.55:no.10-12 2017:Oct.-Dec.	Available	Get It: 2 days

Remote Storage

Call Number:	QC1 .I53	
Indexes:	Index is bound in the back.	
Library Owns: QC1 .I53	(v.2-10 (1964-1972),; v.12-24 (1974-1986); v.25:no.1-11 (1987:Jan.-Nov.),; v.26-50 (1988-2012); v.51:no.1-9,11-12 (2013:Jan.-Sept., Nov.-Dec.); v.52 (2014))	
Call Number	Status	Get It
QC1 .I53 v.2 1964	Available	Get It: 4 days
QC1 .I53 v.3 1965	Available	Get It: 4 days
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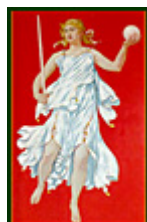
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260 New Delhi : \$b Council of Scientific & Industrial Research ; \$a Oxford ; \$a New York : \$b Pergamon Press [distributor], \$c [©1963]-

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