

# DC electrical conduction of zinc telluride thin films

A.A. Ibrahim

Physics Department, Faculty of Science, Minia University, Minia, Egypt

Received 28 February 2006; received in revised form 11 July 2006; accepted 11 July 2006

## Abstract

Zinc telluride (ZnTe) thin films were deposited by thermal evaporation onto glass substrates kept at room temperature. X-ray diffraction studies showed that the films were polycrystalline and of cubic structure. The current–voltage ( $I$ – $V$ ) characteristics of the Au/ZnTe/Au thin film sandwich system at different temperatures were studied. The DC conduction was explained using the Schottky or Jonscher–Ansari modified Pool–Frenkel mechanism.

© 2006 Elsevier Ltd. All rights reserved.

**Keywords:** Zinc telluride; Thin films; Conduction; XRD

## 1. Introduction

The  $II$ – $VI$  compound semiconductors are of considerable interest, which is mainly due to their special electrical and optical properties. Among these compounds is zinc telluride (ZnTe), which is widely used in optoelectronic devices in the visible region. Polycrystalline thin films of ZnTe have been prepared using different techniques such as thermal evaporation, sublimation in an inert atmosphere, chemical vapor deposition, spraying, electrodeposition [1–4], sputtering [5–7], epitaxial growth [8] and direct combination of Zn and Te in a quartz ampoule [9]. The current–voltage characteristic is important to explain the electrical conductivity mechanism depending on the polarity of the applied voltage. In fact this is not sufficient to explain the conduction mechanism in ZnTe thin films.

In the present work, the conduction mechanism in ZnTe thin films is investigated as a function of both applied voltage and temperature.

## 2. Experimental details

The ZnTe material was thermally evaporated using the vacuum evaporation technique (vacuum evaporation system type E306 Edward) at a pressure inside the chamber

better than  $3 \times 10^{-3}$  Pa onto a glass substrate kept at room temperature. The glass substrates were cleaned ultrasonically, then washed with alcohol, dried and rubbed gently with cotton. The substrates were placed close to each other on a substrate holder inside the evaporation chamber. The source-to-substrate distance was 0.2 m and the deposition direction was normal to the substrate. The gold electrode was evaporated from a molybdenum boat onto carefully cleaned glass substrates through suitable masks to form the base electrode. Pure ZnTe powder was evaporated through a mask from a molybdenum boat to form the film over the gold electrode. The film thickness ( $t$ ) was measured using a Fizeau interferometric method. Then another gold electrode was evaporated to complete the fabrication of the Au/ZnTe/Au sandwich devices as shown in Fig. 1. The completed devices had an active area of about  $1.25 \times 10^{-3} \text{ m}^2$ .

Structural analysis of the ZnTe samples was made using a JEOL X-ray diffractometer (model 60PA). The DC current across the sandwich was measured as a function of the applied voltage under vacuum at different temperatures (300–395 K) using Keithley 610 electrometer and auto-ranging power supply (model AP6050A). Temperature was measured using a copper–constantan thermocouple. Sample capacitance was measured at 100 kHz with zero DC bias using an LCR meter (Stanford Research System, model SR 720).

E-mail address: [abdel\\_ibrhim@yahoo.com](mailto:abdel_ibrhim@yahoo.com).

# Dc Conduction In Thin Films

**Daniela Niemeyer**



## **Dc Conduction In Thin Films:**

Thank you very much for reading **Dc Conduction In Thin Films**. Maybe you have knowledge that, people have look numerous times for their favorite readings like this Dc Conduction In Thin Films, but end up in infectious downloads. Rather than enjoying a good book with a cup of coffee in the afternoon, instead they cope with some malicious bugs inside their desktop computer.

Dc Conduction In Thin Films is available in our book collection an online access to it is set as public so you can download it instantly.

Our digital library spans in multiple countries, allowing you to get the most less latency time to download any of our books like this one.

Kindly say, the Dc Conduction In Thin Films is universally compatible with any devices to read

<https://gandalf.roeckerfam.com/results/publication/HomePages/American%20Labor%20Leaders%20Personalities%20And%20Forces%20In%20T.pdf>

## **Table of Contents Dc Conduction In Thin Films**

1. Understanding the eBook Dc Conduction In Thin Films
  - The Rise of Digital Reading Dc Conduction In Thin Films
  - Advantages of eBooks Over Traditional Books
2. Identifying Dc Conduction In Thin Films
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Dc Conduction In Thin Films
  - User-Friendly Interface
4. Exploring eBook Recommendations from Dc Conduction In Thin Films

- Personalized Recommendations
  - Dc Conduction In Thin Films User Reviews and Ratings
  - Dc Conduction In Thin Films and Bestseller Lists
5. Accessing Dc Conduction In Thin Films Free and Paid eBooks
    - Dc Conduction In Thin Films Public Domain eBooks
    - Dc Conduction In Thin Films eBook Subscription Services
    - Dc Conduction In Thin Films Budget-Friendly Options
  6. Navigating Dc Conduction In Thin Films eBook Formats
    - ePub, PDF, MOBI, and More
    - Dc Conduction In Thin Films Compatibility with Devices
    - Dc Conduction In Thin Films Enhanced eBook Features
  7. Enhancing Your Reading Experience
    - Adjustable Fonts and Text Sizes of Dc Conduction In Thin Films
    - Highlighting and Note-Taking Dc Conduction In Thin Films
    - Interactive Elements Dc Conduction In Thin Films
  8. Staying Engaged with Dc Conduction In Thin Films
    - Joining Online Reading Communities
    - Participating in Virtual Book Clubs
    - Following Authors and Publishers Dc Conduction In Thin Films
  9. Balancing eBooks and Physical Books Dc Conduction In Thin Films
    - Benefits of a Digital Library
    - Creating a Diverse Reading Collection Dc Conduction In Thin Films
  10. Overcoming Reading Challenges
    - Dealing with Digital Eye Strain
    - Minimizing Distractions
    - Managing Screen Time
  11. Cultivating a Reading Routine Dc Conduction In Thin Films
    - Setting Reading Goals Dc Conduction In Thin Films
    - Carving Out Dedicated Reading Time
  12. Sourcing Reliable Information of Dc Conduction In Thin Films

- Fact-Checking eBook Content of Dc Conduction In Thin Films
  - Distinguishing Credible Sources
13. Promoting Lifelong Learning
- Utilizing eBooks for Skill Development
  - Exploring Educational eBooks
14. Embracing eBook Trends
- Integration of Multimedia Elements
  - Interactive and Gamified eBooks

### **Dc Conduction In Thin Films Introduction**

In the digital age, access to information has become easier than ever before. The ability to download Dc Conduction In Thin Films has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite book, or a professional seeking research papers, the option to download Dc Conduction In Thin Films has opened up a world of possibilities. Downloading Dc Conduction In Thin Films provides numerous advantages over physical copies of books and documents. Firstly, it is incredibly convenient. Gone are the days of carrying around heavy textbooks or bulky folders filled with papers. With the click of a button, you can gain immediate access to valuable resources on any device. This convenience allows for efficient studying, researching, and reading on the go. Moreover, the cost-effective nature of downloading Dc Conduction In Thin Films has democratized knowledge. Traditional books and academic journals can be expensive, making it difficult for individuals with limited financial resources to access information. By offering free PDF downloads, publishers and authors are enabling a wider audience to benefit from their work. This inclusivity promotes equal opportunities for learning and personal growth. There are numerous websites and platforms where individuals can download Dc Conduction In Thin Films. These websites range from academic databases offering research papers and journals to online libraries with an expansive collection of books from various genres. Many authors and publishers also upload their work to specific websites, granting readers access to their content without any charge. These platforms not only provide access to existing literature but also serve as an excellent platform for undiscovered authors to share their work with the world. However, it is essential to be cautious while downloading Dc Conduction In Thin Films. Some websites may offer pirated or illegally obtained copies of copyrighted material. Engaging in such activities not only violates copyright laws but also undermines the efforts of authors, publishers, and researchers. To ensure ethical downloading, it is advisable to utilize reputable websites that prioritize the legal distribution of content. When downloading Dc Conduction In Thin Films, users should also consider the potential security risks associated with online

platforms. Malicious actors may exploit vulnerabilities in unprotected websites to distribute malware or steal personal information. To protect themselves, individuals should ensure their devices have reliable antivirus software installed and validate the legitimacy of the websites they are downloading from. In conclusion, the ability to download Dc Conduction In Thin Films has transformed the way we access information. With the convenience, cost-effectiveness, and accessibility it offers, free PDF downloads have become a popular choice for students, researchers, and book lovers worldwide. However, it is crucial to engage in ethical downloading practices and prioritize personal security when utilizing online platforms. By doing so, individuals can make the most of the vast array of free PDF resources available and embark on a journey of continuous learning and intellectual growth.

### FAQs About Dc Conduction In Thin Films Books

1. Where can I buy Dc Conduction In Thin Films books? Bookstores: Physical bookstores like Barnes & Noble, Waterstones, and independent local stores. Online Retailers: Amazon, Book Depository, and various online bookstores offer a wide range of books in physical and digital formats.
2. What are the different book formats available? Hardcover: Sturdy and durable, usually more expensive. Paperback: Cheaper, lighter, and more portable than hardcovers. E-books: Digital books available for e-readers like Kindle or software like Apple Books, Kindle, and Google Play Books.
3. How do I choose a Dc Conduction In Thin Films book to read? Genres: Consider the genre you enjoy (fiction, non-fiction, mystery, sci-fi, etc.). Recommendations: Ask friends, join book clubs, or explore online reviews and recommendations. Author: If you like a particular author, you might enjoy more of their work.
4. How do I take care of Dc Conduction In Thin Films books? Storage: Keep them away from direct sunlight and in a dry environment. Handling: Avoid folding pages, use bookmarks, and handle them with clean hands. Cleaning: Gently dust the covers and pages occasionally.
5. Can I borrow books without buying them? Public Libraries: Local libraries offer a wide range of books for borrowing. Book Swaps: Community book exchanges or online platforms where people exchange books.
6. How can I track my reading progress or manage my book collection? Book Tracking Apps: Goodreads, LibraryThing, and Book Catalogue are popular apps for tracking your reading progress and managing book collections. Spreadsheets: You can create your own spreadsheet to track books read, ratings, and other details.
7. What are Dc Conduction In Thin Films audiobooks, and where can I find them? Audiobooks: Audio recordings of books,

- perfect for listening while commuting or multitasking. Platforms: Audible, LibriVox, and Google Play Books offer a wide selection of audiobooks.
8. How do I support authors or the book industry? Buy Books: Purchase books from authors or independent bookstores. Reviews: Leave reviews on platforms like Goodreads or Amazon. Promotion: Share your favorite books on social media or recommend them to friends.
  9. Are there book clubs or reading communities I can join? Local Clubs: Check for local book clubs in libraries or community centers. Online Communities: Platforms like Goodreads have virtual book clubs and discussion groups.
  10. Can I read Dc Conduction In Thin Films books for free? Public Domain Books: Many classic books are available for free as they're in the public domain. Free E-books: Some websites offer free e-books legally, like Project Gutenberg or Open Library.

### Find Dc Conduction In Thin Films :

[american labor leaders personalities and forces in t  
american novelists 1910-1945](#)

**american literary scholarship an annual 1998 american literary scholarship an annual  
american government strategy and choice**

*american manufactures directory 2002*

**american men and women of science j-1**

[american foundations for social welfare](#)

[american journal of numismatics 12 second series hardcover](#)

[american colonial state in the philippines](#)

[american govt & politics today with reading in american govt 2 bk set](#)

*american merchant ships on the yangtze*

*american democracy aspects of practical liberalism*

**american illustration hardcover by**

**american folk poetry**

[american doctors and german universities a chapter in international intellectual relations 1870-1914](#)

**Dc Conduction In Thin Films :**

[clarke s commentary vol ii joshua esther goodreads](#) - Feb 08 2023

web abebooks com clarke s commentary joshua esther vol ii size 4mo over 9 3 4 12 tall 829 pp pages are tight and clean moderate shelfwear to the cover ex church

**clarkes commentary volume 2 joshua esther powell s books** - Oct 04 2022

web buy a cheap copy of clarke s commentary volume 2 joshua book by adam clarke free shipping on all orders over 15

**clarke s commentary volume 2 joshua esther abebooks** - Apr 10 2023

web holy bible kjv adam clarke volume 2 joshua to esther commentary and critical notes new edition with final corrections free ebook download as pdf file pdf

*media sabda pustaka media sabda* - Aug 02 2022

web joshua esther the holy bible with a commentary and critical notes v o l u m e 2 of 6 adam clarke the storekeeper s daughter the quilter s daughter the bishop s

**commentary on the whole bible volume 2 joshua through** - Nov 24 2021

web a derivative of adam clarke s commentary for the online bible produced by sulu d kelley 1690 old harmony dr concord nc 28027 8031 704 782 4377 was not written till

[clarke s commentary volume 2 joshua esther thriftbooks](#) - Sep 03 2022

web media sabda pustaka media sabda

**joshua esther the holy bible with a commentary and critical** - Feb 25 2022

web 2 the holy bible containing the old testament the text carefully printed from the most correct copies of the present authorized

**clarke s commentary vol 2 joshua esther abebooks** - Dec 06 2022

web title clarkes commentary volume 2 joshua esther at abebooks co uk isbn 10 0687091241 isbn 13 9780687091249 hardcover

**joshua esther the holy bible with a commentary and critical** - Mar 29 2022

web joshua esther the holy bible with a commentary and critical notes v o l u m e 2 of 6 adam clarke data scientist transform enrich and explore the data for advanced

**joshua 2 clarke s commentary bible commentaries** - May 31 2022

web nov 17 2021 joshua esther the holy bible with a commentary and critical notes v o l u m e 2 of 6 adam clarke luke and the law society for new testament

[joshua esther the holy bible with a commentary and critical](#) - Jul 01 2022

web joshua 2 clarke s commentary adam clarke s commentary is a valuable resource for christians seeking a deeper understanding of the scriptures his thorough examination

[esther 2 clarke s commentary bible commentaries](#) - May 11 2023

web abebooks com clarke s commentary volume 2 joshua esther 9780687091249 by adam clarke and a great selection of similar new used and collectible books available

**wesleyan h library** - Oct 24 2021

web clarke s commentary vol ii joshua esther hardcover by adam clarke author 1 rating see all formats and editions hardcover 17 93 4 used from 13 94 the holy bible

**joshua esther the holy bible with a commentary and critical** - Apr 29 2022

web sep 6 2021 a pastor joshua esther the holy bible with a commentary and critical notes v o l u m e 2 of 6 adam clarke dubious about the duke second sons of

**clarke s commentary volume 2 joshua esther by adam** - Dec 26 2021

web aug 27 2011 commentary on the whole bible volume 2 joshua through esther adam clarke s commentary on the whole bible kindle edition by clarke adam download

**t library commentaries sabda org** - Aug 14 2023

web volume 2 joshua through esther 3 editor s notes preparing clarke s commentary on the old and new testaments for an electronic format has been a task

[adam clarke s commentary on the whole bible volume 2](#) - Jul 13 2023

web aug 19 2011 you are about to download the ebook version of adam clarke s commentary on the whole bible volume 2 joshua through esther this timeless and

**truth4freedom files wordpress com** - Jan 27 2022

web clarke s commentary volume 2 joshua esther adam clarke 0 00 0 ratings 0 reviews want to read buy on amazon rate this book book by adam clarke

[holy bible kjv adam clarke volume 2 joshua to esther](#) - Mar 09 2023

web read reviews from the world s largest community for readers the holy bible containing the old and new testaments with a commentary and critical notes clarke s commentary

*title clarkes commentary volume 2 joshua esther abebooks* - Nov 05 2022

web clarkes commentary volume 2 joshua esther by adam clarke available in hardcover on powells com also read synopsis and reviews

**clarke s commentary vol ii joshua esther amazon com** - Sep 22 2021

**clarke s commentary joshua esther vol ii abebooks** - Jan 07 2023

web abebooks com clarke s commentary vol 2 joshua esther text appears to be unmarked previous owner name on front and rear pastedowns cover shows normal

**clarke s commentary volume 2 joshua esther** - Jun 12 2023

web verse 21 verse esther 2 21 mordecai sat in the kings gate mordecai might have been one of the officers of the king as the gate was the place where such usually attended to

**meet cute review kaley cuoco and pete davidson in a jagged** - Jan 14 2023

web sep 21 2022 meet cute directed by alex lehmann and written by noga pnueli adopts the conceit of time traveling films like groundhog day to concoct a love story reaching for the poignancy of eternal sunshine

meet cute rotten tomatoes - Jul 20 2023

web meet cute follows the story of sheila kaley cuoco and gary pete davidson when they meet it s love at first sight until we realize their magical date wasn t fate at all

**meet cute 2022 imdb** - Aug 21 2023

web sep 21 2022 meet cute directed by alex lehmann with kaley cuoco pete davidson kevin corrigan deborah s craig what would you do if you could travel to your loved ones past heal their traumas fix their problems and change them into the perfect partner

meet cute review live date repeat the new york times - Apr 17 2023

web sep 21 2022 meet cute like the 2020 film palm springs brings the concept to bear on the rom com sheila kaley cuoco is stuck on a time looped first date with gary pete davidson repeatedly

meet cute film wikipedia - Sep 22 2023

web meet cute is a 2022 american romantic comedy film directed by alex lehmann starring kaley cuoco and pete davidson it was digitally released on september 21 2022 on peacock and received mixed reviews from critics

meet cute movie review film summary 2022 roger ebert - Feb 15 2023

web sep 21 2022 meet cute then winds these ideas about changing someone to make some pretty disingenuous emotional bids in its third act to assemble a hollow message about choosing life because of a relationship no not even a relationship a first date with gary the romantic fantasies and the time travel plotting of meet cute are a total mismatch

*meet cute official trailer peacock original youtube* - Jun 19 2023

web sep 8 2022 meet cute is streaming september 21st on peacock pck tv 3cleia9synopsis when sheila kaley cuoco and gary pete davidson meet it s love at first

**meet cute review kaley cuoco and pete davidson team up in a cnn** - Mar 16 2023

web sep 21 2022 kaley cuoco and pete davidson meet again and again in meet cute mki distribution services nbcuniversal  
cnn time traveling romance has a spotty history just ask hbo but like

[meet cute wikipedia](#) - Oct 23 2023

web meet cute romeo meets juliet for the first time 1861 watercolor by victoria princess royal in film television and literature  
a meet cute is a scene in which the two people who will form a future romantic couple meet for the first time typically under  
unusual humorous or cute circumstances 1

**meet cute review charmless time travel romantic comedy** - May 18 2023

web sep 21 2022 meet cute a grating peacock romcom starring kaley cuoco and pete davidson dives straight into a classic  
story boy meets girl at a new york bar or more specifically girl eyes boy

[effektive softwarearchitekturen 9 auflage 2020 beck shop de](#) - Feb 08 2023

web effektive software architekturen ein praktischer leitfaden starke gernot amazon de books

*hanser e books effektive softwarearchitekturen ein* - Nov 05 2022

web dieses buch gibt es in einer neuen auflage effektive softwarearchitekturen ein praktischer leitfaden 49 99 31 auf lager  
aktueller Überblick und methodische

[effektive softwarearchitekturen ein praktischer l](#) - Dec 26 2021

web this online declaration effektive softwarearchitekturen ein praktischer l can be one of the options to accompany you past  
having additional time it will not waste your time

**effektive softwarearchitekturen hanser books** - Mar 29 2022

web vmh97 ist ein einstieg in das v modell das offizielle vorgehensmodell zur entwicklung von it systemen bei deutschen  
behörden da die ursache der meisten krankheiten in

*effektive softwarearchitekturen ein praktischer leitfaden* - Sep 03 2022

web jul 7 2015 dieser praxisleitfaden zeigt ihnen wie sie softwarearchitekturen effektiv und systematisch entwickeln können  
gernot starke unterstützt sie mit praktischen tipps

**effektive softwarearchitekturen ein praktischer leitfaden** - Jan 07 2023

web dieser praxisleitfaden zeigt ihnen wie sie softwarearchitekturen effektiv und systematisch entwickeln können gernot  
starke unterstützt sie mit praktischen tipps

[effektive softwarearchitekturen ein praktischer leitfaden](#) - Aug 14 2023

web dieser praxisleitfaden zeigt ihnen wie sie softwarearchitekturen effektiv und systematisch entwickeln können gernot  
starke unterstützt sie mit praktischen tipps

*effektive softwarearchitekturen hanser fachbuch* - Apr 10 2023

web software architekten müssen komplexe fachliche und technische anforderungen an it systeme umsetzen und diese systeme durch nachvollziehbare strukturen flexibel und

**effektive softwarearchitekturen ein praktischer leitfaden** - Jul 01 2022

web effektive softwarearchitekturen ein praktischer leitfaden bearbeitet von gernot starke 8 überarbeitete auflage 2017 buch 453 s gebunden isbn 978 3 446 45207 7 format

**effektive software architekturen** - Oct 04 2022

web dieser praxisleitfaden zeigt ihnen wie sie softwarearchitekturen effektiv und systematisch entwickeln können gernot starke unterstützt sie mit praktischen tipps

**effektive softwarearchitekturen ebook pdf bücher de** - Aug 02 2022

web dieser praxisleitfaden zeigt ihnen wie sie softwarearchitekturen effektiv und systematisch entwickeln können gernot starke unterstützt sie mit praktischen tipps

*effektive software architekturen ein praktischer leitfaden* - Dec 06 2022

web ein praktischer leitfaden 7 aufl age starke effektive softwarearchitekturen bleiben sie auf dem laufenden unser computerbuch newsletter informiert sie monatlich über

*effektive softwarearchitekturen ein praktischer leitfaden pdf* - Nov 24 2021

web jul 28 2023 as skillfully as insight of this effektive softwarearchitekturen ein praktischer l can be taken as with ease as picked to act architecture principles danny

*gernot starke effektive software architekturen* - Feb 25 2022

web effektive softwarearchitekturen ein praktischer l 3 3 project cesar for improving and enabling interoperability of methods tools and processes to meet the demands in

effektive softwarearchitekturen ein praktischer l - Oct 24 2021

**effektive softwarearchitekturen ein praktischer leitfaden** - May 11 2023

web dieser praxisleitfaden zeigt ihnen wie sie softwarearchitekturen effektiv und systematisch entwickeln können gernot starke unterstützt sie mit praktischen tipps

effektive softwarearchitekturen ein praktischer l uniport edu - Sep 22 2021

effektive softwarearchitekturen readingsample - Apr 29 2022

web effektive software architekturen ein praktischer leitfaden isbn 10 3 446 41215 8 isbn 13 978 3 446 41215 6 inhaltsverzeichnis weitere informationen oder bestellungen unter

**effektive softwarearchitekturen von gernot starke buch 978** - May 31 2022

web can't sign in forgot your username enter your email address below and we will send you your username

**effektive softwarearchitekturen ein praktischer leitfaden** - Jul 13 2023

web dieser praxisleitfaden zeigt ihnen wie sie software architekturen effektiv und systematisch entwickeln können gernot starke unterstützt sie mit praktischen tipps

**effektive softwarearchitekturen ein praktischer leitfaden** - Jun 12 2023

web effektive softwarearchitekturen downloaded from hanser elibrary com by 20 79 107 247 on june 2 2023 for personal use only stichwortverzeichnis 435

effektive software architekturen ein praktischer leitfaden - Jan 27 2022

web read download pdf effektive softwarearchitekturen ein praktischer leitfaden by gernot starke update the latest version with high quality try now

*effektive softwarearchitekturen esa* - Mar 09 2023

web dieses buch gibt es in einer neuen auflage effektive softwarearchitekturen ein praktischer leitfaden 49 99 32 auf lager aktueller Überblick und methodische