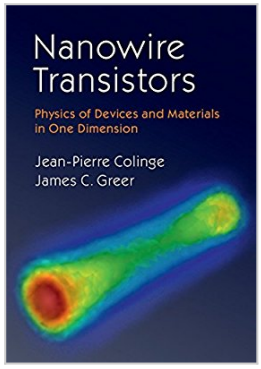


# Nanowire Transistors: Physics of Devices and Materials in One Dimension

*By Jean-Pierre Colinge, James C. Greer*



**Nanowire Transistors: Physics of Devices and Materials in One Dimension**
By Jean-Pierre Colinge, James C. Greer

From quantum mechanical concepts to practical circuit applications, this book presents a self-contained and up-to-date account of the physics and technology of nanowire semiconductor devices. It includes a unified account of the critical ideas central to low-dimensional physics and transistor physics which equips readers with a common framework and language to accelerate scientific and technological developments across the two fields. Detailed descriptions of novel quantum mechanical effects such as quantum current oscillations, the metal-to-semiconductor transition and the transition from classical transistor to single-electron transistor operation are described in detail, in addition to real-world applications in the fields of nanoelectronics, biomedical sensing techniques, and advanced semiconductor research. Including numerous illustrations to help readers understand these phenomena, this is an essential resource for researchers and professional engineers working on semiconductor devices and materials in academia and industry.

# Nanowire Transistors: Physics of Devices and Materials in One Dimension

*By Jean-Pierre Colinge, James C. Greer*

**Nanowire Transistors: Physics of Devices and Materials in One Dimension** By Jean-Pierre Colinge, James C. Greer

From quantum mechanical concepts to practical circuit applications, this book presents a self-contained and up-to-date account of the physics and technology of nanowire semiconductor devices. It includes a unified account of the critical ideas central to low-dimensional physics and transistor physics which equips readers with a common framework and language to accelerate scientific and technological developments across the two fields. Detailed descriptions of novel quantum mechanical effects such as quantum current oscillations, the metal-to-semiconductor transition and the transition from classical transistor to single-electron transistor operation are described in detail, in addition to real-world applications in the fields of nanoelectronics, biomedical sensing techniques, and advanced semiconductor research. Including numerous illustrations to help readers understand these phenomena, this is an essential resource for researchers and professional engineers working on semiconductor devices and materials in academia and industry.

**Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer Bibliography**

- Rank: #3146744 in eBooks
- Published on: 2016-04-21
- Released on: 2016-04-05
- Format: Kindle eBook

## Editorial Review

About the Author
Jean-Pierre Colinge is a Director at the Taiwan Semiconductor Manufacturing Company (TSMC). He is a Fellow of the IEEE and the TSMC and received the IEEE Andrew Grove Award in 2012. He has over 35 years' experience in conducting research on semiconductor devices and has authored several books on the topic.

James C. Greer is a Professor and Head of the Graduate Studies Centre at the Tyndall National Institute, and co-founder and Director of EOLAS Designs Ltd, having formerly worked at Mostek, Texas Instruments, and Hitachi Central Research. He received the inaugural Intel Outstanding Researcher Award for Simulation and Metrology in 2012.

## Users Review

**From reader reviews:**

**William Gilbert:**

This Nanowire Transistors: Physics of Devices and Materials in One Dimension book is simply not ordinary book, you have it then the world is in your hands. The benefit you obtain by reading this book is definitely information inside this book incredible fresh, you will get facts which is getting deeper you actually read a lot of information you will get. This particular Nanowire Transistors: Physics of Devices and Materials in One Dimension without we know teach the one who examining it become critical in contemplating and analyzing. Don't become worry Nanowire Transistors: Physics of Devices and Materials in One Dimension can bring when you are and not make your carrier space or bookshelves' turn out to be full because you can have it in your lovely laptop even mobile phone. This Nanowire Transistors: Physics of Devices and Materials in One Dimension having great arrangement in word along with layout, so you will not really feel uninterested in reading.

**Marcus Laws:**

The particular book Nanowire Transistors: Physics of Devices and Materials in One Dimension has a lot associated with on it. So when you check out this book you can get a lot of gain. The book was compiled by the very famous author. The author makes some research just before write this book. This particular book very easy to read you can find the point easily after looking over this book.

**Kenneth Hoy:**

Reading a book being new life style in this year; every people loves to go through a book. When you read a book you can get a large amount of benefit. When you read ebooks, you can improve your knowledge, simply because book has a lot of information into it. The information that you will get depend on what kinds of book that you have read. In order to get information about your analysis, you can read education books,

but if you want to entertain yourself read a fiction books, such us novel, comics, and also soon. The Nanowire Transistors: Physics of Devices and Materials in One Dimension offer you a new experience in examining a book.

**Mattie Peters:**

This Nanowire Transistors: Physics of Devices and Materials in One Dimension is completely new way for you who has attention to look for some information since it relief your hunger details. Getting deeper you on it getting knowledge more you know or perhaps you who still having tiny amount of digest in reading this Nanowire Transistors: Physics of Devices and Materials in One Dimension can be the light food to suit your needs because the information inside this particular book is easy to get by means of anyone. These books create itself in the form which can be reachable by anyone, yeah I mean in the e-book application form. People who think that in e-book form make them feel tired even dizzy this guide is the answer. So there is absolutely no in reading a publication especially this one. You can find actually looking for. It should be here for anyone. So , don't miss the item! Just read this e-book kind for your better life along with knowledge.

# Read Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer for online ebook

Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer books to read online.

## Online Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer ebook PDF download

### Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer Doc

**Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer Mobipocket**

**Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer EPub**

**1BURQZTHW5F: Nanowire Transistors: Physics of Devices and Materials in One Dimension By Jean-Pierre Colinge, James C. Greer**