



CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems)

By Angelo Rivetti

[Download now](#)

[Read Online](#) 

CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti

CMOS: Front-End Electronics for Radiation Sensors offers a comprehensive introduction to integrated front-end electronics for radiation detectors, focusing on devices that capture individual particles or photons and are used in nuclear and high energy physics, space instrumentation, medical physics, homeland security, and related fields.

Emphasizing practical design and implementation, this book:

- Covers the fundamental principles of signal processing for radiation detectors
- Discusses the relevant analog building blocks used in the front-end electronics
- Employs systematically weak and moderate inversion regimes in circuit analysis
- Makes complex topics such as noise and circuit-weighting functions more accessible
- Includes numerical examples where appropriate

CMOS: Front-End Electronics for Radiation Sensors provides specialized knowledge previously obtained only through the study of multiple technical and scientific papers. It is an ideal text for students of physics and electronics engineering, as well as a useful reference for experienced practitioners.

 [Download CMOS: Front-End Electronics for Radiation Sensors ...pdf](#)

 [Read Online CMOS: Front-End Electronics for Radiation Sensor ...pdf](#)

CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems)

By Angelo Rivetti

CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti

CMOS: Front-End Electronics for Radiation Sensors offers a comprehensive introduction to integrated front-end electronics for radiation detectors, focusing on devices that capture individual particles or photons and are used in nuclear and high energy physics, space instrumentation, medical physics, homeland security, and related fields.

Emphasizing practical design and implementation, this book:

- Covers the fundamental principles of signal processing for radiation detectors
- Discusses the relevant analog building blocks used in the front-end electronics
- Employs systematically weak and moderate inversion regimes in circuit analysis
- Makes complex topics such as noise and circuit-weighting functions more accessible
- Includes numerical examples where appropriate

CMOS: Front-End Electronics for Radiation Sensors provides specialized knowledge previously obtained only through the study of multiple technical and scientific papers. It is an ideal text for students of physics and electronics engineering, as well as a useful reference for experienced practitioners.

CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti Bibliography

- Sales Rank: #2419488 in Books
- Published on: 2015-06-18
- Original language: English
- Number of items: 1
- Dimensions: 1.60" h x 6.00" w x 9.20" l, .0 pounds
- Binding: Hardcover
- 726 pages



[Download CMOS: Front-End Electronics for Radiation Sensors ...pdf](#)



[Read Online CMOS: Front-End Electronics for Radiation Sensor ...pdf](#)

Download and Read Free Online CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti

Editorial Review

Review

"... an essential resource for whoever is involved with radiation sensors from the circuit design perspective. It nicely covers all topics of practical interest, gradually leading from general concepts to specific aspects and bringing several interesting examples. The author was able to effectively transfer his wide knowledge and experience, both as a researcher and as an educator, into this amazing piece of work. The book can lead newcomers to rapidly learn how to address the analysis and design of front-end circuits, but it is also suitable for experts to refresh some important concepts without the need to go through many scientific papers."

?Gian-Franco Dalla Betta, University of Trento, Italy

"... a well-organized, clear, and comprehensive guide to the design of low-noise front-end electronics for sensors. An ideal introduction for beginners and students, and a valuable reference for experienced designers."

?Gianluigi De Geronimo, Brookhaven National Laboratory, Upton, New York, USA and Stony Brook University, New York, USA

"Reflecting the author's extensive experience, the book covers the design and implementation of the front-end electronics optimized for the amplification, conditioning, and digitization of signals in radiation sensors. This body of knowledge, developed along many decades within the high energy and nuclear physics communities, was dispersed in many specialized articles. Now it is collected, summarized, and enriched in an impressive book of about 700 pages, which covers both the theoretical background and many implementation practical aspects. This is the book that many people in the field were waiting for."

?Joao Varela, Laboratory of Instrumentation and Experimental Particles Physics, Lisbon, Portugal and Instituto Superior Técnico, University of Lisbon, Portugal

About the Author

Angelo Rivetti received a degree in physics from the University of Torino, Italy, and a Ph.D in electrical engineering from the Politecnico di Torino, Italy. From 1998 to 2000, he worked at the Conseil Européen pour la Recherche Nucléaire (CERN), Meyrin, Switzerland on the implementation of radiation tolerant integrated circuits in commercial deep submicron complementary metal–oxide–semiconductor (CMOS) technologies. From 2000 to 2001, he was an assistant professor with the faculty of physics at the University of Torino. In December 2001, he joined the Istituto Nazionale di Fisica Nucleare (INFN), Torino, Italy, where he developed very-large-scale integration (VLSI) front-end circuits now in use in the A Large Ion Collider Experiment (ALICE) and Common Muon and Proton Apparatus for Structure and Spectroscopy (COMPASS) experiments at CERN. He is currently a senior member of the research and technology staff at INFN. His research interests are in the design of mixed signal front-end electronics for hybrid and monolithic radiation detectors employed in high energy physics, medical imaging, and industrial applications.

Users Review

From reader reviews:

Mary Fleming:

Do you have favorite book? In case you have, what is your favorite's book? Guide is very important thing for us to learn everything in the world. Each guide has different aim or maybe goal; it means that publication has different type. Some people feel enjoy to spend their time for you to read a book. They are reading whatever they get because their hobby is reading a book. Why not the person who don't like examining a book? Sometime, particular person feel need book whenever they found difficult problem or maybe exercise. Well, probably you should have this CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems).

Jose Wilson:

Have you spare time to get a day? What do you do when you have more or little spare time? Yep, you can choose the suitable activity to get spend your time. Any person spent their own spare time to take a go walking, shopping, or went to the Mall. How about open or even read a book called CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems)? Maybe it is to get best activity for you. You know beside you can spend your time with your favorite's book, you can cleverer than before. Do you agree with it has the opinion or you have various other opinion?

Martin Hobson:

As people who live in typically the modest era should be up-date about what going on or details even knowledge to make these keep up with the era which is always change and move forward. Some of you maybe will update themselves by reading through books. It is a good choice for yourself but the problems coming to an individual is you don't know what kind you should start with. This CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) is our recommendation to help you keep up with the world. Why, because book serves what you want and wish in this era.

Christine Knox:

People live in this new morning of lifestyle always attempt to and must have the spare time or they will get wide range of stress from both day to day life and work. So , when we ask do people have time, we will say absolutely indeed. People is human not really a huge robot. Then we question again, what kind of activity are there when the spare time coming to anyone of course your answer will probably unlimited right. Then ever try this one, reading books. It can be your alternative with spending your spare time, typically the book you have read is actually CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems).

Download and Read Online CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo

Rivetti #A8R7JC9SW6V

Read CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti for online ebook

CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti
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 CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti books to read online.

Online CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti ebook PDF download

CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti Doc

CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti MobiPocket

CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti EPub

A8R7JC9SW6V: CMOS: Front-End Electronics for Radiation Sensors (Devices, Circuits, and Systems) By Angelo Rivetti