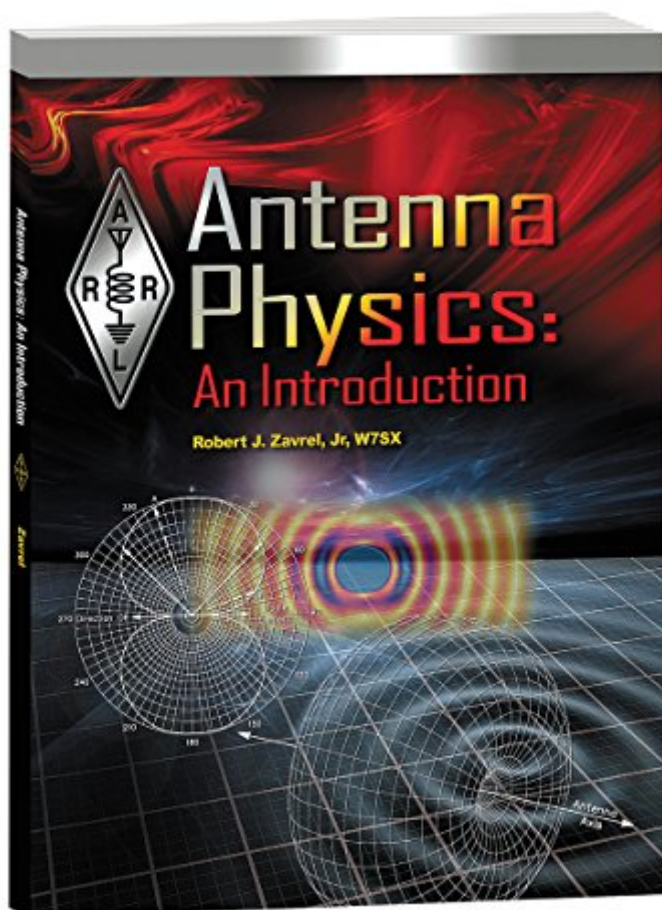


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# Antenna Physics: An Introduction



## Synopsis

Delve Deeper into Antenna Theory Radio amateurs are familiar with antennas and use them every day to communicate on the air. We learned some basic antenna theory while studying for license exams, and most of us have built an antenna or two. We know the basics and turn to the ARRL Handbook, ARRL Antenna Book, and other general texts when thinking about our next antenna project. We know how long to make a dipole or vertical antenna for a particular frequency, but do we know how the antenna really works? Antenna Physics: An Introduction is written to bridge the gap between basic theory and graduate-level engineering texts. Robert J. Zavrel, Jr, W7SX, a well-known author and professional antenna engineer, explains many of the underlying principles of antennas and antenna physics and introduces the reader to the mathematics behind these principles. Note that this is not a book of "how-to" projects, but rather a theoretical and mathematical approach to the topic. Although some competence in mathematics is required to get the most from this book, readers may follow along and understand the concepts without needing to solve the complex equations presented. In later chapters, examples tie the concepts learned in earlier chapters to a number of antenna types familiar to radio amateurs. Includes: Antenna Fundamentals Radiation of Radio Waves Transmission Lines Antennas Using Multiple Sources Applied Antenna Physics Dielectric Effects Upon Radio Waves Vertical Antennas Yagi-Uda and Cubical Quad Antennas Specialized Antenna Configurations Noise, Temperature, and Signals

## Book Information

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## Customer Reviews

This is a very readable text on a subject that can be complex and difficult. I'm only about a fourth of the way through it but it has helped with providing an understanding of the antenna from the standpoint of aperture.

How antennas work. This is an in depth explanation of the physics of how antennas do what they do. The information in this book goes beyond the normal impedance matching/SWR measurements/antenna modelling that we normally contend with and is well written and understandable. It is the book for the inner ham geek in all of us.

Downside first...Several typos and grammatical issues. I can live with it, should be corrected in revisions. Seems like the author got tongue tied. I would have made ch 10 one of the first chapters. My preference as the review put calculus in a frame of understanding is better at times than learning how to. Wish more high school math teachers would try this. When I teach, I advise the students I do not want them to do any math, I just want them to understand....after presenting the concept they breeze thru a Q&A session and come up with the answer. Sometimes teachers unknowingly make things harder.

Had a lot of problems getting the Kindle app to display this book correctly. After an hour of lost time, I removed it from my device and then downloaded it again. Seems to be working now. Will write a better review of the content in a few days.

Well written survey of an important topic for radio operators. The comments on small fonts in the formulas are interesting, but overwrought. They're legible on my Fire and my iPad. I wish they were a little bigger, but they're not crucial to understanding the text. In an age where you can go to a store and buy plug-and-play equipment and get on the air with little understanding, it's like buying a TV. But unlike TV where we get content produced by professionals, most of the content on ham

bands is notably unprofessional. That's why we're called amateurs. So the attraction should be more on the technology than the content. FCC expects us to be somewhat knowledgeable, requiring proof on the license exams. That knowledge increases the satisfaction with this pastime, and this book increases that knowledge. 73

Good reference book on antenna theory at a technical level between basic and college textbook.

Most information known previously, but there are a number of helpful articles.

Good book. Some valuable insights. Not always clearly written.

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