

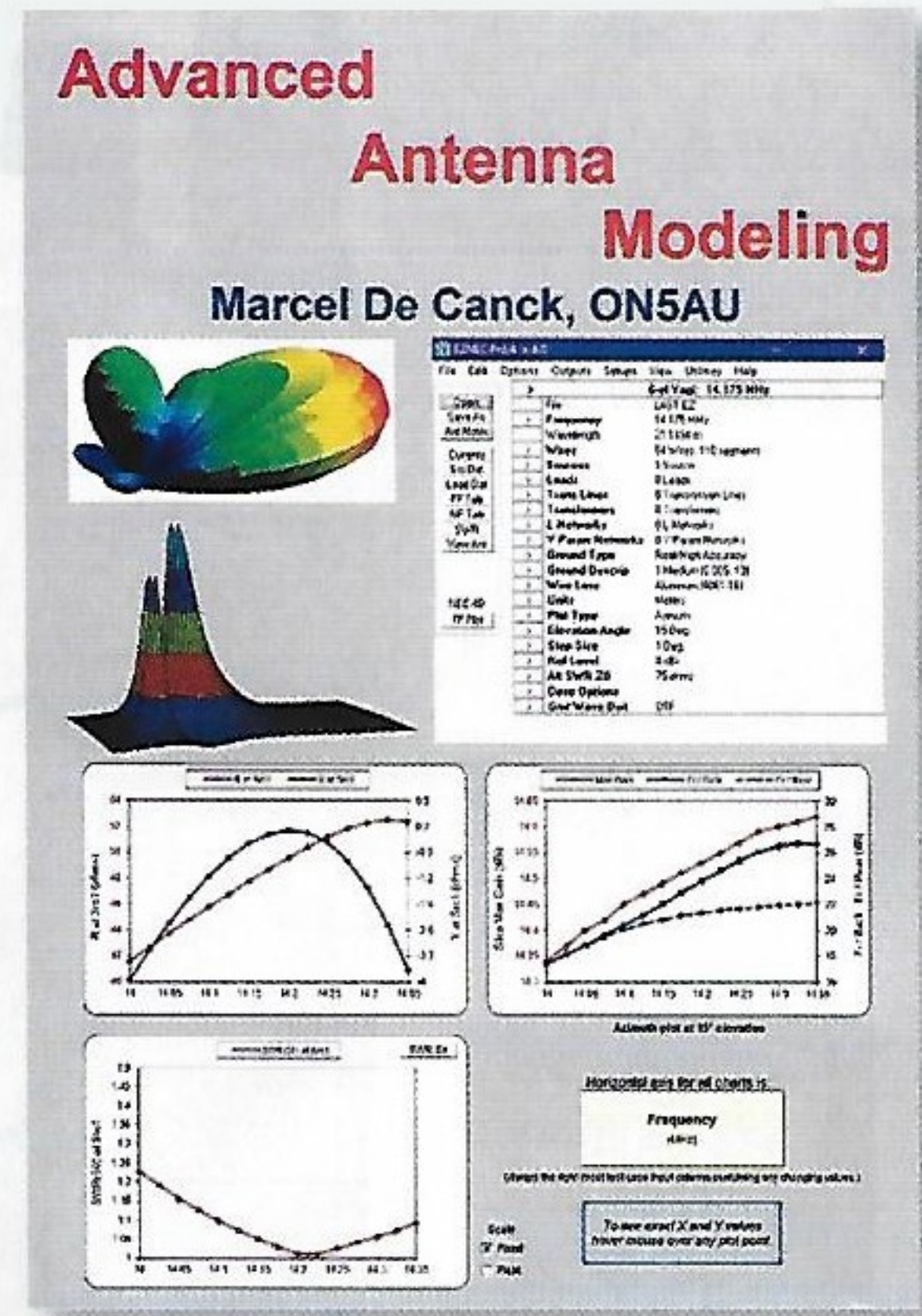
# Advanced Antenna Modeling

By Marcel De Canak, ON5AU

Antenna modelling has rightly been described as both an art and a science. Over recent decades, with the introduction of computerised antenna modelling the understanding and what can be achieved has been advanced greatly by radio amateurs. *Advanced Antenna Modeling* by Marcel De Canak, ON5AU sets out to explain in 'how to' detail the vast array of what can be achieved with antenna modelling by all radio amateurs.

Based on the powerful EZNEC antenna modelling software this book seeks to provide a detailed view of modelling a wide array of antennas. After beginning with an introduction and a guide to getting started, this book provides an encyclopaedic look at modelling antennas in 20 chapters, 2 appendices and 584 pages. *Advanced Antenna Modeling* provides a powerful tool for radio amateurs that can help you to design antennas and optimise their performance. You will find detailed explanations of both EZNEC and the AutoEZ application used in conjunction with EZNEC. You can evaluate and adjust pre-designed models and create your own. Step by step you are guided through the important functions and procedures, so you'll discover the fascination of antenna modelling.

*Advanced Antenna Modeling* provides in a clear and in-depth way the know-how of antennas so you can get the most out of cubical quads, Yagis, delta loops, multiband dipoles, helixes and many more. If you are looking for a comprehensive view of antenna modelling this is certainly the book for you.



## Advanced Antenna Modelling

by Marcel De Canck, ON5AU

This book provides a comprehensive 584 page guide to the use of EZNEC v6.0, the latest version of this Windows application produced at the Lawrence Livermore National Laboratory.

*Advanced Antenna Modelling* provides a step-by-step approach, in clear and plain English, on how to use EZNEC to model an antenna. The functionality of EZNEC is explained in a concise way, supported with large screenshots of the menus and info involved. The book uses many antenna examples to help explain how to use of the application effectively, and also makes reference to the EZNEC library of sample antenna models. Its large font makes it easy to read, especially open in front of you while using EZNEC.

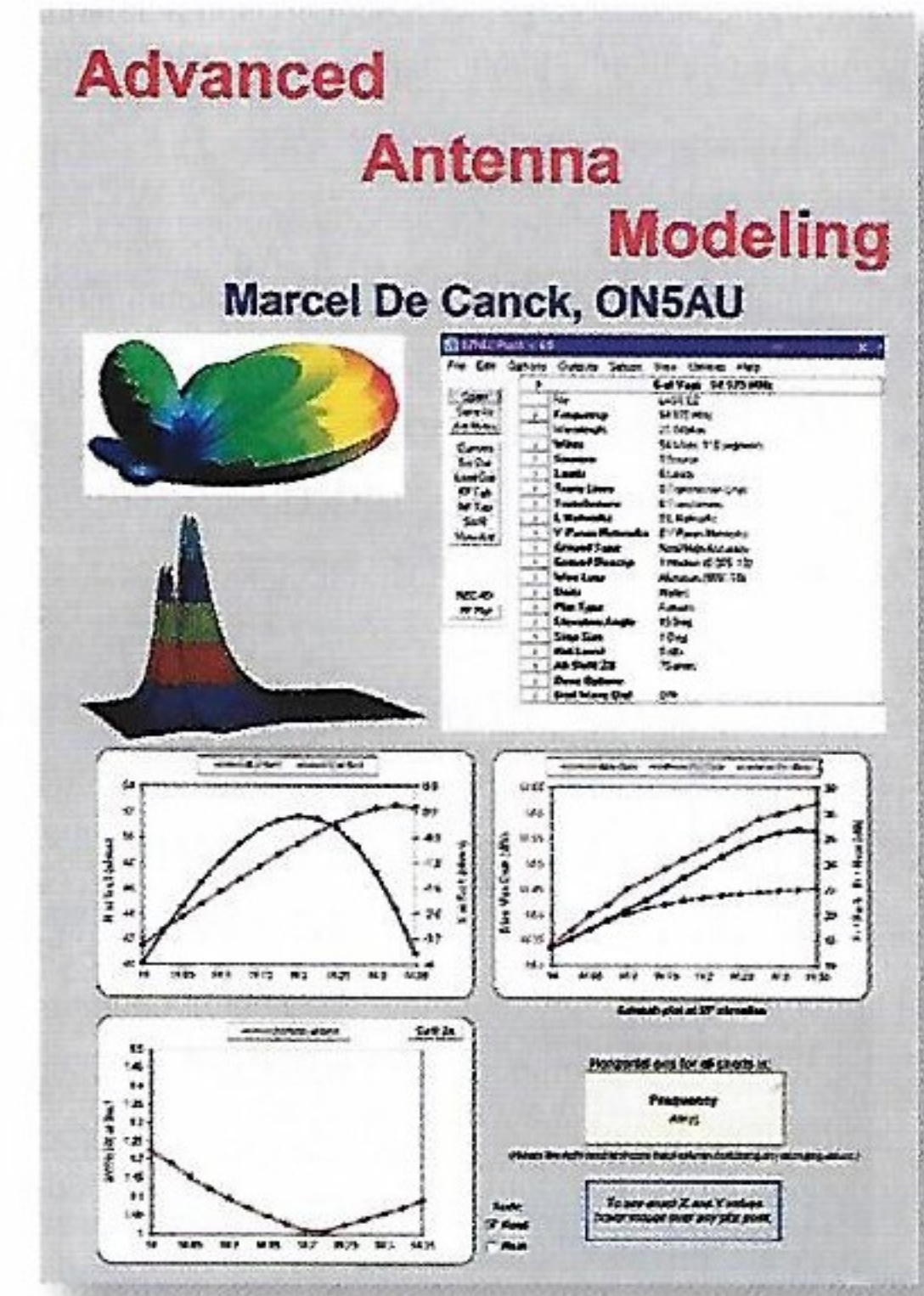
The book starts with an overview of the modelling application's operation. This leads on to constructing a three-dimensional antenna model, running it, then evaluating the results. These include tables, 2D and 3D graphical plots of the antenna's radiation pattern and provide an excellent way of understanding the predisted performance. We then learn how to change the model's variables and re-run it as often as required to optimise the antenna design.

EZNEC allows antennas to be modelled from MF through to UHF and above, ranging from single wire to multiple element beam antennas in free-space – or at a specified height above ground. A whole chapter is dedicated to ground parameters. There are also chapters detailing how to model the transmission feedline, along with modelling resonant inductive/capacitive circuits (eg to represent traps).

The later chapters provide a guide on how to evaluate and interpret the results with the aim of optimising the antenna's performance. There's also an overview of comparing antenna far-field radiation patterns.

This is a first-rate guide to using EZNEC and interpreting its results and is well worth considering for your own – or the club – bookshelf.

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