

Foreword

Dr. Anderson is the primary pioneer of plasma antennas research. The second book edition will have many originalities and ingenious plasma antenna designs for different applications covering the smart communications systems with many reconfigurable antennas, some exotic applications for medical area, and also plasma metamaterial antennas. In this second edition, there will be the first results of many new examples of original plasma focusing and steering devices working at millimeter wave frequencies (24 GHz and 40 GHz). The readers will find a lot of information concerning how to build new types of plasma antennas and various ways on how to energize the plasma depending on the application.

Most of the examples given in the book are from Dr. Anderson's research realized in his company Haleakala Research And Development Inc. In the second edition Dr. Anderson balances theoretical research and simulations with experimental research and testing and with practical engineering solutions of plasma antennas. It also testifies to the richness of research in this field, the perpetual efforts to deepen the knowledge of plasma antennas through experimental and modelling approaches all of which allow progress in knowledge and strong innovation capacities to the applications of plasma antennas in the areas of 5G, 4G, urban and rural telecommunications in general, Wi-Fi, radar, and medical applications.

The second edition is written for a large cross section of scientists, engineers, graduate or undergraduate students, and even the non-specialists who want to understand and apply plasma antennas to various areas of engineering. The second edition will give the reader enough knowledge in plasma antennas to advance their own capabilities in advancing the field of plasma antennas. For the practical antenna engineer, the second edition will give enough practical knowledge of plasma antennas to do their own designs and building of plasma antennas.

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