

Preface

The reduction and control of radar cross section (RCS) of an object have been attempted by various techniques, including shaping, use of radar absorbing materials, frequency-selective surfaces, engineered materials etc. Likewise, plasma-based stealth is a RCS reduction technique associated with the reflection and absorption of incident EM wave by the plasma layer surrounding the structure. This book reviews the research and development work on plasma-based RCS reduction reported so far in the open literature. The book starts with the basics of EM wave interactions with plasma, briefly discusses the methods used to analyze the propagation characteristics of plasma, and the plasma generation. It presents the parametric analysis of propagation behavior of plasma, and the challenges in the implementation of plasma-based stealth technology. The book provides an insight of role of various parameters in the EM propagation within plasma. This comprehensive review is expected to serve as a parametric base for researchers working in the area of plasma stealth.

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Plasma-based Radar Cross Section Reduction

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2016, XXII, 52 p. 19 illus., Softcover

ISBN: 978-981-287-759-8