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Titolo	Fundamentals of the Radiolocation and Radionavigation // by Stanisaw Rosoniec
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Disciplina	629.1324 629.132
Soggetti	Telecommunication Aerospace engineering Astronautics Communications Engineering, Networks Aerospace Technology and Astronautics Microwaves, RF Engineering and Optical Communications
Lingua di pubblicazione	Inglese
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Nota di contenuto	Radiolocation and its basic principles -- Determining the objects position by radiolocation methods -- Reflective surface of the detected objects with monostatic and bistatic radar systems -- Range equations of primary and secondary radar systems -- Bistatic radar systems -- Multistatic radar systems -- Standard methods for extending the range of radar station -- Theoretical basis of matched signal filtration -- Filters matched to the typical radar signals -- Basic methods for eliminating spurious signals.
Sommario/riassunto	The book presents principles of operation of radar and radionavigation systems. The group of radar systems includes: primary and secondary radiolocations, bistatic and multistatic systems. They are illustrated with relevant examples of calculation and applications. The issues of increasing the range of the radar systems are presented together with the matched filtering of the used signals. Other discussed issues are methods for eliminating interfering signals and researching methods of

3D space. Various methods of the monopulse radiolocation are presented in Chapter 12. In Chapters 13–18 terrestrial and satellite radionavigation systems are under discussion. The terrestrial systems are: Loran C, Decca Navigator and Omega. The TRANSIT is an example of a hyperbolic satellite system. The stadiometric systems GPS, GLONASS, GALILEO, BeiDou, IRNSS and QZSS are discussed together with differential systems augmentating of them. The ILS, MLS and TLS supporting the landing of aircrafts are discussed in Chapter 17. The prospects for replacing of them with satellite systems augmented by appropriate reference ground-based stations (GBAS) are also analyzed. Various beacons and ranging devices used in aviation are described in the Chapter 18. This book is intended primarily for students and engineers interested in radar, radionavigation and aerospace engineering.
