1. Record Nr. UNINA9910250049703321

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Titolo	Galactic Radio Astronomy [[electronic resource] /] / by Yoshiaki Sofue
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2017
ISBN	981-10-3445-1
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XVIII, 229 p. 135 illus., 44 illus. in color.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 935
Disciplina	522.682
Soggetti	Observations, Astronomical Astronomy—Observations Astrophysics Optics Electrodynamics Gravitation Physical measurements Measurement Astronomy, Observations and Techniques Astrophysics and Astroparticles Classical Electrodynamics Classical and Quantum Gravitation, Relativity Theory Measurement Science and Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Interstellar Matter -- Star Formation and Death -- Galactic Structure -- The Galactic Center and Activity -- Nonthermal Emission and Magnetic Fields.
Sommario/riassunto	This book is a concise primer on galactic radio astronomy for undergraduate and graduate students, and provides wide coverage of galactic astronomy and astrophysics such as the physics of interstellar matter and the dynamics and structure of the Milky Way Galaxy and galaxies. Radio astronomy and its technological development have led to significant progress in galactic astronomy and contributed to understanding interstellar matter and galactic structures. The book begins with the fundamental physics of radio-wave radiation, i.e., black

body radiation, thermal emission, synchrotron radiation, and HI and molecular line emissions. The author then gives overviews of ingredients of galactic physics, including interstellar matter such as the neutral (HI), molecular hydrogen, and ionized gases, as well as magnetic fields in galaxies. In addition, more advanced topics relevant to the Galaxy and galaxies are also contained here: star formation, supernova remnants, the Galactic Center and black holes, galactic dynamics and dark-matter halos, magnetism of galaxies, interstellar gases in galaxies, and starbursts. A unique feature of this book is its focus on how to analyze and interpret radio astronomical observation data and how to describe the underlying physics from such data. A wealth of figures and images will be a great help for undergraduate and graduate students to understand the contents. Furthermore, the well-summarized contents of theory and observation will appeal to young researchers as well.