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Titolo	Star Identification [[electronic resource] ] : Methods, Techniques and Algorithms // by Guangjun Zhang
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Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XI, 223 p. 162 illus., 144 illus. in color.)
Disciplina	629.1
Soggetti	Aerospace engineering Astronautics Observations, Astronomical Astronomy—Observations Applied mathematics Engineering mathematics Signal processing Image processing Speech processing systems Aerospace Technology and Astronautics Astronomy, Observations and Techniques Mathematical and Computational Engineering Signal, Image and Speech Processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	From the Contents: Introduction -- Processing of Star Catalog and Star Image -- Star Identification using Modified Triangle Algorithm -- Star Identification using Star Patterns -- Star Identification using Neural Networks -- Rapid Star Tracking using Star Matching between Adjacent Frames -- Hardware Implement and Performance Test of Star Identification.
Sommario/riassunto	This book summarizes the research advances in star identification that the author's team has made over the past 10 years, systematically introducing the principles of star identification, general methods, key

techniques and practicable algorithms. It also offers examples of hardware implementation and performance evaluation for the star identification algorithms. Star identification is the key step for celestial navigation and greatly improves the performance of star sensors, and as such the book include the fundamentals of star sensors and celestial navigation, the processing of the star catalog and star images, star identification using modified triangle algorithms, star identification using star patterns and using neural networks, rapid star tracking using star matching between adjacent frames, as well as implementation hardware and using performance tests for star identification. It is not only valuable as a reference book for star sensor designers and researchers working in pattern recognition and other related research fields, but also as teaching resource for senior postgraduate and graduate students majoring in information processing, computer science, artificial intelligence, aeronautics and astronautics, automation and instrumentation. Dr. Guangjun Zhang is a professor at the School of Instrumentation Science and Opto-electronics Engineering, Beihang University, China and also the Vice President of Beihang University, China.

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