

1. Record Nr.	UNINA9910300547803321
Autore	Li Anhu
Titolo	Double-Prism Multi-mode Scanning: Principles and Technology / / by Anhu Li
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2018
ISBN	9789811314322 9811314322
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XIII, 311 p. 248 illus., 183 illus. in color.)
Collana	Springer Series in Optical Sciences, , 1556-1534 ; ; 216
Disciplina	006.62
Soggetti	Lasers Photonics Microwaves Optical engineering Physical measurements Measurement Optics, Lasers, Photonics, Optical Devices Microwaves, RF and Optical Engineering Measurement Science and Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Double-prism multi-mode scan theory -- Inverse problem of double-prism multi-mode scanning -- Performance characterization of double-prism multi-mode scanning -- Design of double-prism multi-mode scan system -- Performance test on double-prism multi-mode scan system -- Support design technology of large-aperture prism.
Sommario/riassunto	This book introduces double-prism multi-mode scanning theory and technology, focusing on double Risley-prism, multi-mode scanning models, methods and key techniques applied in multi-mode optical scanning and target tracking fields. It is first book to systematically and comprehensively describe basic multi-mode scanning theory and practical implementation techniques utilizing double Risley prisms. It includes rigorous modeling of double Risley-prism multi-mode

scanning systems and high-efficiency solution algorithms for inverse problems with abundant illustrative examples and scanning error analyses, along with design guidance and performance test on specific scanning devices. Further, it presents the latest research results for forward scanning models and inverse tracking algorithms, sub-microradian fine scanning modeling with tilting double Risley prisms, nonlinear control strategy for double prism motion, calibration and experiment techniques for various double-prism layouts, as well as opto-mechanical system design and analysis. Featuring rigorous theoretical derivations illustrated with corresponding examples and original scanning apparatus, the book is a valuable reference resource for those developing and applying multi-mode scanning techniques in photoelectric scanning and tracking areas.
