1.	Record Nr.	UNINA9910299981603321
	Autore	Alesker Semyon
	Titolo	Integral Geometry and Valuations / / by Semyon Alesker, Joseph H.G. Fu ; edited by Eduardo Gallego, Gil Solanes
	Pubbl/distr/stampa	Basel : , : Springer Basel : , : Imprint : Birkhäuser, , 2014
	ISBN	3-0348-0874-7
	Edizione	[1st ed. 2014.]
	Descrizione fisica	1 online resource (VIII, 112 p.)
	Collana	Advanced Courses in Mathematics - CRM Barcelona, , 2297-0304
	Disciplina	516.362
	Soggetti	Convex geometry
		Discrete geometry
		Differential geometry
		Convex and Discrete Geometry
		Differential Geometry
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Part I: New Structures on Valuations and Applications -- Translation invariant valuations on convex sets -- Valuations on manifolds -- Part II: Algebraic Integral Geometry -- Classical integral geometry -- Curvature measures and the normal cycle -- Integral geometry of euclidean spaces via Alesker theory -- Valuations and integral geometry on isotropic manifolds -- Hermitian integral geometry.
	Sommario/riassunto	Valuations are finitely additive functionals on the space of convex bodies. Their study has become a central subject in convexity theory, with fundamental applications to integral geometry. In the last years there has been significant progress in the theory of valuations, which in turn has led to important achievements in integral geometry. This book originated from two courses delivered by the authors at the CRM and provides a self-contained introduction to these topics, covering most of the recent advances. The first part, by Semyon Alesker, is devoted to the theory of convex valuations, with emphasis on the latest developments. A special focus is put on the new fundamental structures of the space of valuations discovered after Alesker's irreducibility theorem. Moreover, the author describes the newly developed theory of valuations on manifolds. In the second part, Joseph

H. G. Fu gives a modern introduction to integral geometry in the sense of Blaschke and Santaló, based on the notions and tools presented in the first part. At the core of this approach lies the close relationship between kinematic formulas and Alesker's product of valuations. This original viewpoint not only enlightens the classical integral geometry of Euclidean space, it has also produced previously unreachable results, such as the explicit computation of kinematic formulas in Hermitian spaces.