

1. Record Nr.	UNISA996466480303316
Autore	Handelman David <1950->
Titolo	Positive polynomials, convex integral polytopes, and a randomwalk problem // David E. Handelman
Pubbl/distr/stampa	Berlin ; ; Heidelberg : , : Springer-Verlag, , [1987] ©1987
ISBN	3-540-47951-1
Edizione	[1st ed. 1987.]
Descrizione fisica	1 online resource (XIV, 138 p.)
Collana	Lecture Notes in Mathematics ; ; 1282
Classificazione	46L35 13B25 52A43 60G50
Disciplina	516.158
Soggetti	Polytopes Polynomials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Definitions and notation -- A random walk problem -- Integral closure and cohen-macauleyness -- Projective RK-modules are free -- States on ideals -- Factoriality and integral simplicity -- Meet-irreducible ideals in RK -- Isomorphisms.
Sommario/riassunto	Emanating from the theory of $C^*$ -algebras and actions of tori theorem, the problems discussed here are outgrowths of random walk problems on lattices. An AGL $(d, \mathbb{Z})$ -invariant (which is a partially ordered commutative algebra) is obtained for lattice polytopes (compact convex polytopes in Euclidean space whose vertices lie in $\mathbb{Z}^d$ ), and certain algebraic properties of the algebra are related to geometric properties of the polytope. There are also strong connections with convex analysis, Choquet theory, and reflection groups. This book serves as both an introduction to and a research monograph on the many interconnections between these topics, that arise out of questions of the following type: Let $f$ be a (Laurent) polynomial in several real variables, and let $P$ be a (Laurent) polynomial with only positive coefficients; decide under what circumstances there exists an integer $n$ such that $P^n f$ itself also has only positive coefficients. It is intended to

reach and be of interest to a general mathematical audience as well as specialists in the areas mentioned.

---