Record Nr.	UNINA9910768167203321
Autore	Lavor Carlile
Titolo	A Geometric Algebra Invitation to Space-Time Physics, Robotics and Molecular Geometry / / by Carlile Lavor, Sebastià Xambó-Descamps, Isiah Zaplana
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-90665-8
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (X, 128 p. 20 illus., 4 illus. in color.)
Collana	SpringerBriefs in Mathematics, , 2191-8198
Disciplina	516
Soggetti	Geometry
	Mathematical physics
	Computer science—Mathematics
	Mathematical Applications in the Physical Sciences
	Symbolic and Algebraic Manipulation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 01- Low dimensional geometric algebras Chapter 02- Conformal geometric algebra Chapter 03- Minkowski's space time Chapter 04- Robot kinematics Chapter 05- Molecular geometry.
Sommario/riassunto	This book offers a gentle introduction to key elements of Geometric Algebra, along with their applications in Physics, Robotics and Molecular Geometry. Major applications covered are the physics of space-time, including Maxwell electromagnetism and the Dirac equation; robotics, including formulations for the forward and inverse kinematics and an overview of the singularity problem for serial robots; and molecular geometry, with 3D-protein structure calculations using NMR data. The book is primarily intended for graduate students and advanced undergraduates in related fields, but can also benefit professionals in search of a pedagogical presentation of these subjects.

1.