Record Nr. UNINA9910438150603321 Autore Viana Marlos A. G. Titolo Dihedral Fourier Analysis [[electronic resource]]: Data-analytic Aspects and Applications / / by Marlos A. G. Viana, Vasudevan Lakshminarayanan New York, NY:,: Springer New York:,: Imprint: Springer,, 2013 Pubbl/distr/stampa **ISBN** 1-283-93420-5 1-4614-5562-6 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (131 p.) Collana Lecture Notes in Statistics, , 0930-0325 Disciplina 515.2433 Soggetti Statistics Statistical Theory and Methods Statistics, general Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Symmetry and Experimental Data -- Algebraic and Data-Analytic Nota di contenuto Aspects -- Curvature and Refraction Data -- Symbolic Sequences --Symmetry Preference and Perception -- Other Applications -- Glossary -- Index. Sommario/riassunto Dihedral Fourier Analysis introduces the theory and applications necessary to study experimental data indexed by, or associated with, the points in a dihedral symmetry orbit. This book looks at experimental data and analytical models indexed by certain dihedral rotations and reversals realized as vector fields. Its particular relevance as a research tool in areas such as optical and molecular biology statistics appears when formulated within the context of symmetry studies, which formally connects algebraic and statistical reasoning together in one methodology for data summary and inference. Chapter 1 presents an overview of the theory and methods of dihedral analysis. It introduces data sets and examples defining and connecting the

algebraic notions of symmetry with those of statistical summaries and inference. Chapter 2 includes the required algebraic aspects and data-

analytic results. Chapters 3-6 offer applications of the methods presented in the text. This book is intended for data analysts of both

theoretical and applied statistics.	