Record Nr. UNISA996518464003316 Autore Ferrer Jesus Titolo Geometry of the Unit Sphere in Polynomial Spaces / / Jesus Ferrer [and five others] Pubbl/distr/stampa Cham, Switzerland: ,: Springer, Springer Nature Switzerland AG, , [2022] ©2022 **ISBN** 3-031-23676-9 Edizione [First edition.] Descrizione fisica 1 online resource (140 pages) Collana SpringerBriefs in Mathematics Series Disciplina 515.7 Soggetti Functional analysis Geometry, Algebraic **Polynomials** Anàlisi funcional Geometria algebraica **Polinomis** Llibres electrònics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Nota di contenuto Chapter. 1. Introduction -- Chapter. 2. Polynomials of degree --Chapter. 3. Spaces of trinomials -- Chapter. 4. Polynomials on nonsymmetric convex bodies -- Chapter. 5. Sequence Banach spaces -- Chapter. 6. Polynomials with the hexagonal and octagonal norms --Chapter. 7. Hilbert spaces -- Chapter. 8. Banach spaces -- Chapter. 9. Applications. Sommario/riassunto This brief presents a global perspective on the geometry of spaces of polynomials. Its particular focus is on polynomial spaces of dimension 3, providing, in that case, a graphical representation of the unit ball. Also, the extreme points in the unit ball of several polynomial spaces

are characterized. Finally, a number of applications to obtain sharp classical polynomial inequalities are presented. The study performed is the first ever complete account on the geometry of the unit ball of

polynomial spaces. Nowadays there are hundreds of research papers on this topic and our work gathers the state of the art of the main and/or

relevant results up to now. This book is intended for a broad audience, including undergraduate and graduate students, junior and senior researchers and it also serves as a source book for consultation. In addition to that, we made this work visually attractive by including in it over 50 original figures in order to help in the understanding of all the results and techniques included in the book.