

1. Record Nr.	UNINA9910146558903321
Autore	Weigel H (Herbert)
Titolo	Chiral soliton models for baryons / / H. Weigel
Pubbl/distr/stampa	Berlin, Germany ; ; New York, New York : , : Springer-Verlag, , [2008] ©2008
ISBN	3-540-75436-9
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (IX, 274 p.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 743
Disciplina	539.72164
Soggetti	Baryons Solitons Particles (Nuclear physics) - Chirality
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 and index.
Nota di contenuto	and Motivation -- Quark Flavor Interaction -- Self-consistent Soliton -- The Skyrme Model -- Soliton Quantization in Flavor SU(2) -- Soliton Quantization in Flavor SU(3) -- Baryon Properties -- Meson-Baryon Scattering in Chiral Soliton Models -- Exotic Baryons -- Multi-baryon Systems in the Skyrme Model.
Sommario/riassunto	This concise research monograph introduces and reviews the concept of chiral soliton models for baryons. In these models, baryons emerge as (topological) defects of the chiral field. The many applications shed light on a number of bayron properties, ranging from static properties via nucleon resonances and deep inelastic scattering to even heavy ion collisions. As far as possible, the theoretical investigations are confronted with experiment. Conceived to bridge the gap between advanced graduate textbooks and the research literature, this volume also features a number of appendices to help nonspecialist readers to follow in more detail some of the calculations in the main text.