Record Nr. UNINA9910784767603321 Autore Adler Stephen L **Titolo** Adventures in theoretical physics [[electronic resource]]: selected papers with commentaries / / Stephen L. Adler Singapore; ; Hackensack, NJ, : World Scientific, c2006 Pubbl/distr/stampa **ISBN** 1-281-91967-5 9786611919672 981-277-476-9 Descrizione fisica 1 online resource (761 p.) Collana World Scientific series in 20th century physics; ; v. 37 Disciplina 530.15 Mathematical physics Soggetti **Physics** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references. Nota di contenuto Contents : Preface : Commentaries ; 1. Early Years and Condensed Matter Physics : References for Chapter 1 ; 2. High Energy Neutrino Reactions PCAC Relations and Sum Rules : Introduction ; Forward Lepton Theorem Soft Pion Theorems : Sum Rules : More Low **Energy Theorems** Weak Pion Production Redux References for Chapter 2 : 3. Anomalies: Chiral Anomalies and Their Nonrenormalization Perturbative Corrections to Scaling and Trace Anomalies to All Orders : Chiral Anomalies and n0 -> vy Decay **Anomaly Nonrenormalization** Point Splitting Calculations of the Anomaly The Non-Abelian Anomaly Its Nonrenormalization and Geometric Interpretation Perturbative Corrections to Scaling ; Trace Anomalies to All Orders ; References for Chapter ; 4. Quantum Electrodynamics ; Introduction Strong Magnetic Field Electrodynamics: Photon Splitting and Vacuum

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Introduction

## Sommario/riassunto

During the period 1964-1972, Stephen L Adler wrote seminal papers on high energy neutrino processes, current algebras, soft pion theorems, sum rules, and perturbation theory anomalies that helped lay the foundations for our current standard model of elementary particle physics. These papers are reprinted here together with detailed historical commentaries describing how they evolved, their relation to other work in the field, and their connection to recent literature. Later important work by Dr Adler on a wide range of topics in fundamental theory, phenomenology, and numerical methods, and th