Record Nr. UNINA9910299844703321 Autore Siginer Dennis A Titolo Developments in the Flow of Complex Fluids in Tubes / / by Dennis A. Siginer Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2015 **ISBN** 3-319-02426-4 Edizione [1st ed. 2015.] 1 online resource (169 p.) Descrizione fisica Disciplina 620 620.1 620.1064 621.4021 Soggetti Fluid mechanics Thermodynamics Heat engineering Heat transfer Mass transfer Mechanics Mechanics, Applied **Engineering Fluid Dynamics** Engineering Thermodynamics, Heat and Mass Transfer Solid Mechanics 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. Nota di contenuto Introduction -- Longitudinal Flow Field of Viscoelastic Fluids --Transversal Flow Field of Viscoelastic Fluids -- Transcriticality --Quasi-Periodic Flows of Viscoelastic Fluids in Straight Tubes --Transversal Flow Field of Particle Laden Linear Fluids -- Epilogue --Appendix I -- Appendix II. This book is dedicated to the tube flow of viscoelastic fluids and Sommario/riassunto Newtonian single and multi-phase particle-laden fluids. This succinct

volume collects the most recent analytical developments and

experimental findings, in particular in predicting the secondary field,

highlighting the historical developments which led to the progress made. This book brings a fresh and unique perspective and covers and interprets efforts to model laminar flow of viscoelastic fluids in tubes and laminar and turbulent flow of single and multi-phase particle-laden flow of linear fluids in light of the latest findings. This book also: Presents a thorough account of successes and failures in modeling and predicting tube flow of viscoelastic fluids and concentrated particle-laden flow of Newtonian fluids with specific explanations throughout Emphasizes the most up-to-date challenges in the field without requiring the reader to wade through detailed treatment of various theories Bridges the latest research results and established knowledge from the archival literature.