

1. Record Nr.	UNINA9910484213903321
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Titolo	Special Functions and Generalized Sturm-Liouville Problems // by Mohammad Masjed-Jamei
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Birkhäuser, , 2020
ISBN	3-030-32820-1
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XI, 313 p. 107 illus., 2 illus. in color.)
Collana	Frontiers in Mathematics, , 1660-8046
Disciplina	515.35 515.352
Soggetti	Differential equations Functions, Special Ordinary Differential Equations Special Functions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Generalized Sturm-Liouville Problems in Continuous Spaces -- Generalized Sturm-Liouville Problems in Discrete Spaces -- Generalized Sturm-Liouville Problems in q-spaces.
Sommario/riassunto	This book discusses theoretical and applied aspects of Sturm-Liouville theory and its generalization. It introduces and classifies generalized Sturm-Liouville problems in three different spaces: continuous, discrete, and q-discrete spaces, focusing on special functions that are solutions of a regular or singular Sturm-Liouville problem. Further, it describes the conditions under which the usual Sturm-Liouville problems with symmetric solutions can be extended to a larger class, particularly highlighting the solutions of generalized problems that result in new orthogonal sequences of continuous or discrete functions. Sturm-Liouville theory is central to problems in many areas, such as engineering, mathematics, physics, and biology. This accessibly written book on the topic is a valuable resource for a broad interdisciplinary readership, from novices to experts.