1.	Record Nr.	UNISA996466637103316
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	Titolo	Spectral Analysis on Graph-like Spaces [[electronic resource] /] / by Olaf Post
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2012
	ISBN	3-642-23840-8
	Edizione	[1st ed. 2012.]
	Descrizione fisica	1 online resource (XV, 431 p. 28 illus.)
	Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 2039
	Disciplina	515
	Soggetti	Mathematical analysis
		Analysis (Mathematics)
		Functional analysis
		Operator theory
		Mathematical physics
		Partial differential equations
		Graph theory
		Analysis
		Functional Analysis
		Operator Theory
		Mathematical Physics
		Partial Differential Equations
		Graph Theory
	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	1 Introduction -- 2 Graphs and associated Laplacians -- 3 Scales of Hilbert space and boundary triples -- 4 Two operators in different Hilbert spaces -- 5 Manifolds, tubular neighbourhoods and their perturbations -- 6 Plumber's shop: Estimates for star graphs and related spaces -- 7 Global convergence results.
	Sommario/riassunto	Small-radius tubular structures have attracted considerable attention in the last few years, and are frequently used in different areas such as Mathematical Physics, Spectral Geometry and Global Analysis. In this monograph, we analyse Laplace-like operators on thin tubular

structures ("graph-like spaces"), and their natural limits on metric graphs. In particular, we explore norm resolvent convergence, convergence of the spectra and resonances.   Since the underlying spaces in the thin radius limit change, and become singular in the limit, we develop new tools such as   -norm convergence of operators acting in different Hilbert spaces,   - an extension of the concept of boundary triples to partial differential operators, and   -an abstract definition of resonances via boundary triples.   These tools are formulated in an abstract framework, independent of the original problem of graph-like spaces, so that they can be applied in many other situations where the spaces are perturbed.