

1. Record Nr.	UNINA9910768193503321
Autore	Dessai Ashoka G. <1949->
Titolo	The lithosphere beneath the Indian shield : a geodynamic perspective / / Ashoka G. Dessai
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-52942-8
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XVIII, 259 p. 71 illus., 38 illus. in color.)
Collana	Modern Approaches in Solid Earth Sciences, , 1876-1682 ; ; 20
Disciplina	551
Soggetti	Lithosphere
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: Continental lithosphere -- Chapter 2: Indian shield -- Chapter 3: Petrology -- Chapter 4: Lithosphere structure -- Chapter 5: Geothermal structure -- Chapter 6: Integration of insights -- Selected bibliography..
Sommario/riassunto	This book explores the geotectonic evolution of the lithosphere beneath the Indian Shield, which comprises a collage of cratons variously bounded by mobile belts and palaeo-rifts. The lithosphere beneath these is fairly thin compared to other cratons worldwide, petrologically varied and shows considerable variation in thickness with depth both intra-craton and among cratons. Moreover, it has been subjected to the influence of repeated magmatic episodes from Proterozoic to Palaeocene, which have variously impacted different parts of the shield. The thermotectonic influence on constituent cratons is variable depending on the evolutionary history. This book discusses the impact of successive tectonomagmatic events on the evolution of the deep crust and shallow mantle, and their Phanerozoic modification as gleaned through the xenolith window. The book provides a petrotectonic perspective on the deep crust and shallow mantle from direct samples brought up as xenoliths of deep lithologies, and offers a comprehensive overview for students, researchers, academics and professionals, integrating the results of petrological studies of deep lithologies and geophysical investigations to (i) shed light on the physico-chemical and thermal structure of the lithosphere from an

array of geotectonic settings and (ii) gain insights into the spatio-temporal evolution of the Indian Shield. An in-depth guide critical thinking on the complex issue of mantle differentiation, magmatism, lithosphere modification and crustal growth over time, the book allows readers to gain a better understanding of the processes that affect the lithosphere and shape the crust on which we live.
