1. Record Nr. UNINA9910760294403321

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Titolo	Structural Analysis of Historical Constructions : SAHC 2023 - Volume 2 / / edited by Yohei Endo, Toshikazu Hanazato
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	3-031-39450-X
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (1340 pages)
Collana	RILEM Bookseries, , 2211-0852 ; ; 46
Altri autori (Persone)	HanazatoToshikazu
Disciplina	624.171
Soggetti	Buildings - Repair and reconstruction Buildings - Maintenance Cultural property Archaeology Building Repair and Maintenance Cultural Heritage Heritage Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Structural Characteristics of Carian Rock-cut Tombs: The Effect of Discrepancy between the Connecting Part and the Back Passage -- The Authenticity and Integrity of The Soil and the Foundation of the Heritage Structure of Bayon Temple, Angkor -- Restoration of Architectural Stone Heritage Damaged by 2011 Great East Japan Earthquake -- Study on Evaluation Method of Reinforcement Effect of Dry Masonry in Historical Monuments Applying DDA -- Modern Japanese Pampas Grass Harvest Methods for Thatched Roof Houses Based on Case Studies of Self-Procurement of Grasses in Shikoku -- Estimating the Structural Characteristics of Historic Armenian Church Buildings and Examining their Strengthening Applications -- Vibration Characteristics of Traditional Masonry Buildings in The Kingdom of Bhutan -- The Introduction and Disappearance of Mixed-Structure Buildings Made from Brick Walls and RC Slabs between 1900 to 1926 in Japan -- Snow Load Effect to Vibration Characteristics of Japanese Traditional Wooden Main Temple Building and Three-Story Pagoda Based on Ambient Vibration and Earthquake Observation Records --

Proposal of Strength Estimation Formula of Wall Clays Using Multiple Regression Analysis -- Numerical Investigation of the Properties of Unreinforced and Reinforced Nepalese Historical Brick Masonry Structures -- Impact Loading Analysis of an Earthen Masonry Structure Using Finite Element Methods -- Reverse Engineering for the Structural Analysis of Heritage Constructions.

Sommario/riassunto

This book gathers the peer-reviewed papers presented at the 13th International Conference on Structural Analysis of Historical Constructions (SAHC), held in Kyoto, Japan, on September 12-15, 2023. It highlights the latest advances and innovations in the field of conservation and restoration of historical and heritage structures. The conference topics encompass history of construction and building technology, theory and practice of conservation, inspection methods, non-destructive techniques and laboratory testing, numerical modeling and structural analysis, management of heritage structures and conservation strategies, structural health monitoring, repair and strengthening strategies and techniques, vernacular constructions, seismic analysis and retrofit, vulnerability and risk analysis, resilience of historic areas to climate change and hazard events, durability, and sustainability. As such the book represents an invaluable, up-to-the-minute tool, providing an essential overview of conservation of historical constructions, and offers an important platform to engineers, architects, archeologists, and geophysicists. Chapter The Challenges of the Conservation of Earthen Sites in Seismic Areas, Chapter Performance Evaluation of Patch Repairs on Historic Concrete Structures (PEPS): Preliminary Results from Two English Case Studies are available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.