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| Altri autori (Persone) | CavaterraCecilia<br>SolciMargherita<br>SpagnuoloMichela |
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| Nota di contenuto | A reaction diffusion model with a stochastic boundary condition -- A stochastic interacting particle model for the marble sulphation process -- Mathematical Modelling of Calcium Carbonate Sulphation - A Computational Study -- Space feature curves recognition and approximation for artifacts characterization -- Homogenization of a Kresling-tube origami -- Modelling paintings on canvas and simulation of local crack patterns -- Griffith criterion for steady and unsteady-state crack propagation -- Artificial Intelligence algorithms for the characterisation of visitors trajectories in a cultural context -- Museum for social inclusion: the challenge of mathematical exhibitions and educational experiences -- Applications and Open Issues in the Structural Health Monitoring of Historic Buildings -- An archaeological view on the sidelines of the structural analysis of Porta Maggiore, Rome -- Assessing structural resilience: some thoughts on Porta Maggiore, Rome -- A multidisciplinary Mission for Aga Khan Necropolis, the Egyptian Italian Mission at West Aswan (EIMAWA). |
| Sommario/riassunto | This book collects contributions presented at the INdAM Workshop "Mathematical modeling and Analysis of degradation and restoration in Cultural Heritage–MACH2023” held in Rome, Italy in September 2023. The book is focused on mathematical modeling and simulation |

techniques with the aim of improving the current strategies of conservation and restoration in cultural heritage, sharing different experiences and approaches. The main topics are corrosion and sulphation of materials, damage and fractures, stress in thermomechanical systems, contact and adhesion problems, phase transitions and reaction-diffusion models, restoration techniques, additive manufacturing, with a particular focus on the effective improvements of the fruition of cultural heritage. The final goal is to strengthen the bridge between the experts in different fields of cultural heritage and the mathematical community.