1.	Record Nr.	UNINA9910557128003321
	Autore	Ricciardi Giuseppe
	Titolo	Recent Advances in the Design of Structures with Passive Energy Dissipation Systems
	Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2020
	Descrizione fisica	1 electronic resource (266 p.)
	Soggetti	History of engineering & technology
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Sommario/riassunto	Passive vibration control plays a crucial role in structural engineering. Common solutions include seismic isolation and damping systems with various kinds of devices, such as viscous, viscoelastic, hysteretic, and friction dampers. These strategies have been widely utilized in engineering practice, and their efficacy has been demonstrated in mitigating damage and preventing the collapse of buildings, bridges, and industrial facilities. However, there is a need for more sophisticated analytical and numerical tools to design structures equipped with optimally configured devices. On the other hand, the family of devices and dissipative elements used for structural protection keeps evolving, because of growing performance demands and new progress achieved in materials science and mechanical engineering. This Special Issue collects 13 contributions related to the development and application of passive vibration control strategies for structures, covering both traditional and innovative devices. In particular, the contributions concern experimental and theoretical investigations of high-efficiency dampers and isolation bearings; optimization of conventional and innovative energy dissipation devices; performance-based and probability-based design of damped structures; application of nonlinear dynamics, random vibration theory, and modern control theory to the design of structures with passive energy dissipation systems; and critical discussion of implemented isolation/damping