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Nota di contenuto	Introduction -- First matrix cracking behavior in CMCs at room temperature -- First matrix cracking behavior in CMCs at elevated temperature -- Multiple matrix cracking behavior in CMCs at room temperature -- Multiple matrix cracking behavior in CMCs at elevated temperature -- Matrix crack opening behavior in CMCs at room temperature -- Matrix crack opening behavior in CMCs at elevated temperature -- Matrix crack closure behavior in CMCs.
Sommario/riassunto	This book focuses on the vibration behavior of ceramic-matrix composites (CMCs), including (1) vibration natural frequency of intact and damaged CMCs; (2) vibration damping of CMCs considering fibers debonding and fracture; (3) temperature-dependent vibration damping of CMCs; (4) time-dependent vibration damping of CMCs; and (5) cyclic-dependent vibration damping of CMCs. Ceramic-matrix composites (CMCs) possess low material density (i.e., only 1/4 or 1/3 of high-temperature alloy) and high-temperature resistance, which can

reduce cooling air and improve structure efficiency. Understanding the failure mechanisms and internal damage evolution represents an important step to ensure reliability and safety of CMCs. Relationships between microstructure, damage mechanisms, vibration natural frequency, and vibration damping of CMCs are established. This book helps the material scientists and engineering designers to understand and master the vibration behavior of CMCs at room and elevated temperatures.