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Nota di contenuto	Tensile Damage and Fracture of Ceramic-Matrix Composites subjected to Stochastic Loading -- Hysteresis Loops of Ceramic-Matrix Composites subjected to Stochastic Loading -- Stress-rupture of Ceramic-Matrix Composites under Stochastic Loading at Intermediate Temperature -- Fatigue Life of Ceramic-Matrix Composites subjected to Stochastic Loading at Elevated Temperature -- Fatigue Damage and Fracture of Ceramic-Matrix Composites subjected to Stochastic Loading.
Sommario/riassunto	This book presents the relationships between tensile damage and fracture, fatigue hysteresis loops, stress-rupture, fatigue life and fatigue limit stress, and stochastic loading stress. Ceramic-matrix composites (CMCs) possess low material density (i.e., only 1/4 - 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. This book investigates damage and fracture of fiber-reinforced ceramic-matrix composites (CMCs) subjected to stochastic loading, including: (1) tensile damage and fracture of fiber-reinforced CMCs subjected to stochastic loading; (2) fatigue hysteresis loops of fiber-reinforced

CMCs subjected to stochastic loading; (3) stress rupture of fiber-reinforced CMCs with stochastic loading at intermediate temperature; (4) fatigue life prediction of fiber-reinforced CMCs subjected to stochastic overloading stress at elevated temperature; and (5) fatigue limit stress prediction of fiber-reinforced CMCs with stochastic loading. This book helps the material scientists and engineering designers to understand and master the damage and fracture of ceramic-matrix composites under stochastic loading.