SOLID PARTICLE EROSION OF ENVIRONMENTAL BARRIER COATINGS AND CERAMIC MATRIX COMPOSITES

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Solid particle erosion is a key environmental concern within the aerospace industry for both commercial and military operations. Small, hard particulates entrained in the air flow can impact engine hardware resulting in wear of components through material removal leading to deleterious effects. As such, it is important to characterize and understand the erosion behavior of aerospace materials. While the phenomenon of solid particle erosion has been investigated for many aerospace materials, few studies exist on current or next-generation environmental barrier coatings (EBCs) and ceramic matrix composites (CMCs). This presentation will provide an overview of current research progress on solid particle erosion of EBCs and CMCs along with future directions and challenges.