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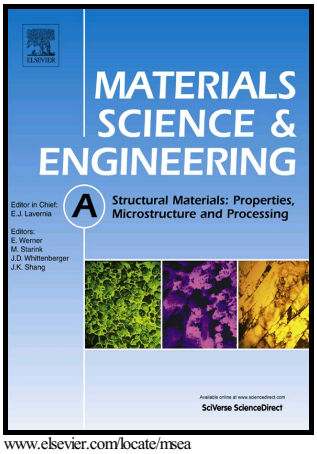

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Abstract

Aluminum matrix composites (AMCs) reinforced with pre-oxidized β-Si_3N_4 whiskers (β-Si_3N_4w) were fabricated by hot pressing method. An amorphous SiO_2 layer was formed on the surface of β-Si_3N_4w aiming to enhance the interfacial bonding strength between aluminum and β-Si_3N_4. The interfacial structure showed that β-Si_3N_4w was well bonded with aluminum and no reaction products were formed near the interface. Effect of pre-