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# **Mechanical properties of directionally solidified $\text{Al}_2\text{O}_3/\text{Y}_3\text{Al}_5\text{O}_{12}$ eutectic ceramic prepared by optical floating zone technique**

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## **ABSTRACT**

$\text{Al}_2\text{O}_3/\text{Y}_3\text{Al}_5\text{O}_{12}$ (YAG) directionally solidified eutectic (DSE) crystal was prepared by optical floating zone technique.  $\text{Al}_2\text{O}_3$ /YAG DSE consists of continuous entangled  $\text{Al}_2\text{O}_3$  and the YAG forming a three-dimensional networks structure. The volume fraction of porosity is ultra-low (0.013%) and the average equivalent diameters of

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