

Abstract Submitted
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Induced Superconductivity by Vanadium Substitution in the Diboride HfB_2 ¹ TED GRANT, S.T. RENOSTO, O.V. CIGARROA, B.S. DE LIMA, A.J.S. MACHADO, Escola de Engenharia de Lorena-USP, Z. FISK, University of California Irvine — The diboride HfB_2 is a non-superconducting diamagnetic compound that crystallizes in the AlB_2 prototype crystal structure. The most well known compound in the AlB_2 structure is the multiband superconductor MgB_2 with a critical temperature close to 39K. In this work we present the systematic substitution of hafnium for vanadium in $\text{Hf}_{(1-x)}\text{V}_x\text{B}_2$ and report induced superconductivity with a critical temperature up to 8.4K. The superconductivity characterization by magnetization, resistivity, and heat capacity measurements are presented.

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