

Abstract Submitted
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Evidence of the superconductivity in the Zr-Pt-Te system SERGIO RENOSTO, Escola de Engenharia de Lorena, Universidade de São Paulo, P.O. Box 116, Lorena, SP, Brasil, TED GRANT, ZACHARY FISK, Departments of Physics and Astronomy, University of California at Irvine, Irvine, CA 92697, USA, ANTONIO MACHADO, Escola de Engenharia de Lorena, Universidade de São Paulo, P.O. Box 116, Lorena, SP, Brasil — Layered transition metal dichalcogenides MetalX_2 are well-known CDW conductors, with low dimensionality properties. The structure of layered TMDC can be regarded as a stacking of covalent coupled M-X-X sandwiches, and the coupling between layers X-X is of weak van de Waals type. The intercalation of metallic atoms into the weak coupled region between the X-X layers leads to significant modification of electronic properties. In this work results suggest that the Pt intercalation is able for induce superconductivity in the matrix compound (ZrTe_2). The critical temperature at 6.5 K is revealed through of magnetization, resistivity and specific heat measurements. Heat-capacity measurements show unambiguously a bulk superconductivity behavior. However, the x-ray diffraction results reveal that ZrPt_xTe_2 can crystallize in the LiCrS_2 prototype structure. Thus, we had shown that the superconductivity is induced by intercalation of Pt atoms.

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