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Superconductivity in a new layer compound of Ni_xZrTe_2 PEDRO HENRIQUE BERTRAMI D'ANGELO, ORLANDO V. CIGARROA, BRUNO S. DE LIMA, Escola de Engenharia de Lorena, Universidade de São Paulo, P.O. Box 116, Lorena, SP, Brasil, ZACHARY FISK, Departments of Physics and Astronomy, University of California at Irvine, Irvine, CA 92697, USA, ANTÔNIO JEFFERSON S. MACHADO, Escola de Engenharia de Lorena, Universidade de São Paulo, P.O. Box 116, Lorena, SP, Brasil — Since the discovery of superconductivity in chalcogenides in Fe-Se system and in iron pnictides much attention have been give for synthesis of new materials which can exhibit superconductivity. Within this context $ZrTe_2$ crystallizes in a CdI_2 prototype structure which posses van der Waals gap between Te bonding. In this work we will show that Ni intercalation between van der Waals gap induce superconductivity in this compound with superconducting critical temperature close to 8.0 K, which can vary with Ni content.

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