Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Superconductivity in $NiTe_2$ compounds interspersed with layers of Ti and Cu FREDERICO BENEDETTO SANTOS, LUCAS EDUARDO CORREA, SERGIO TUAN RENOSTO, BRUNO SANCHES DE LIMA, Universidade de Sao Paulo - EEL/USP, RENATO DE FIGUEIREDO JARDIM, Universidade de Sao Paulo - IF/USP, MILTON TORIKACHVILI, San Diego State University, ANTONIO JEFFERSON DA SILVA MACHADO, Universidade de Sao Paulo - EEL/USP — $NiTe_2$ compound crystallizes in an hexagonal layer structure, CdI_2 prototype, where the layers of tellurium are between the layers of nickel and display some anomalies at the resistivity measurements but principally a metal-insulator like transition close to 25 K. In this work we will show that the intercalation of Copper, between Te-Te van der Waals gap displacement the metal-insulator like transition until reach an unusual metal like behavior from 2.0 K to 300 K temperature range. Another hand, Titanium intercalation between Te-Te van der Waals gap is able to induce superconductivity behavior with superconducting critical temperature close to 4.1 K, sustained by resistivity and magnetization measurements.

Frederico Benedetto Santos
Universidade de Sao Paulo - EEL/USP

Date submitted: 11 Nov 2013 Electronic form version 1.4