Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Superconductivity in (La,Y)FeAs(O,F) pncitides MATTEO TROPEANO, LAMIA-INFM-CNR, Genova- Italy & Dipartimento di Fisica, Genova- Italy, CARLO FERDEGHINI, LAMIA-INFM-CNR, Genova- Italy, CARLO FANCIULLI, LAMIA-INFM-CNR, Genova Italy, ALBERTO MARTINELLI, LAMIA-INFM-CNR, Genova- Italy, ANDREA PALENZONA, Dipartimento di Chimica e Chimica Industriale, Genova Italy & LAMIA-INFM-CNR, MARINA PUTTI, LAMIA-INFM-CNR & Dipartimento di Fisica & Applied Superconductivity Cen, ROBERTA CIMBERLE, IMEM-CNR, Genova- Italy, FABIO CANEPA, Dipartimento di Chimica e Chimica Industriale, Via Dodecaneso 31, 16146 Genova ITALY & IMEM-CNR, Genova- Italy — The structural, magnetic and resistive properties of $(La_{1-x}Y_x)FeAs(O_{0.85}F_{0.15})$ ($x \leq 0.7$) compounds prepared at normal pressure were investigated. Substituting La with Y decreases the ionic size at the rare earth site, determining a progressive decrease of both cell edges; as a result a notable increase of the superconductive transition temperature is observed. In particular T_C increases with Y content, up to a maximum value of 39.8 K for $x = 0.5$, followed by the a slight decrease for $x = 0.7$ ($T_C = 35.9$ K). The resistivity curve of the corresponding undoped compound, $(La_{0.5}Y_{0.5})FeAsO$, exhibits the typical bump related to the SDW onset; the first derivative curves for $(La_{0.5}Y_{0.5})FeAsO$ and LaFeAsO are almost superposed around T_{SDW}.

Alberto Martinelli
LAMIA-INFM-CNR, Corso Perrone 24, 16152 Genova- Italy

Date submitted: 07 Dec 2008 Electronic form version 1.4