Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

**Influence**
**of doping on the physical properties of $\mathbf{Ca_{10-x}RE_xPt_3As_8(Fe_{2-y}Pt_yAs_2)_5}$**

JIAYUN PAN, AMAR KARKI, RONGYING JIN, Louisiana State Univ - Baton Rouge — $Ca_{10-x}RE_xPt_3As_8(Fe_{2-y}Pt_yAs_2)_5$ is a new FeAs-based superconductor. We report the change of its superconducting transition temperature $T_c$ and physical properties upon chemical doping in either Ca (using La or Gd) or Fe (using Pt) site. While partial replacement of Fe by Pt results in $T_c$ up to $21K$, we find that the substitution of Ca by La is most effective pushing $T_c$ to 30 K. The doping in both sites reduces the in-plane resistivity and anisotropy. The doping dependance of electrical transport properties will be presented and discussed.

Jiayun Pan
Louisiana State Univ - Baton Rouge

Date submitted: 03 Nov 2014 Electronic form version 1.4