Abstract Submitted
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Transport properties of $LaFeP_{1-x}As_xO_{1-y}F_y$: Evidence for two superconducting states KWING TO LAI, AKIRA TAKEMORI, SHIGEKI MIYASAKA, SETSUKO TAJIMA, Dept. of Physics, Osaka University, Osaka 560-0043, Japan — Resistivity and Hall coefficient of polycrystalline $LaFeP_{1-x}As_xO_{1-y}F_y$ with $x = 0$ – 1.0 and $y = 0$ – 0.1 have been investigated. In the T_c-x phase diagram for F-free ($y = 0$) samples, two superconducting domes have been revealed at $x = 0$ – 0.3 (T_c^{max} ∼12 K) and 0.6 – 0.8 (T_c^{max} ∼10 K). Hall effect measurements suggest that the electronic states in these two dome regions are different from each other. For $y = 0.05$, double peaks of T_c are observed at $x \sim 0.4$ and 0.8, while only one dome with T_c^{max} ∼28 K is observed for $y = 0.1$ [1]. These changes can be regarded as the fusion of two T_c domes upon F doping.

[1] S. Miyasaka et al., to be published in J. Phys. Soc. Jpn. (arXiv:1310.2731).

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