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Quantum fluctuations in iron-pnictide superconductor $\mathbf{BaFe_2(As_{1-x}P_x)_2}$[1] LEI SHU, Z. F. DING, J. ZHANG, C. TAN, K. HUANG, Fudan University, Shangahi, China, L. LIU, S. CHEUNG, Y. J. UEMURA, Columbia University, D. E. MACLAUGHLIN, University of Riverside, O. O. BERNAL, California State University, Los Angeles, P.-C. HO, California State University, Fresno, D. HU, Chinese Academy of Sciences, P.C. DAI, Rice University — Muon-spin-relaxation/rotation (μSR) experiments were performed on single crystals of iron-pnictide superconductors $BaFe_2(As_{1-x}P_x)_2$ ($x = 0.28, 0.30$, and 0.33). Our preliminary results reveal that the static muon relaxation rate from ZF-μSR measurements is temperature independent through T_c, suggesting that time reversal symmetry is preserved in the superconducting state. Above T_c, the field dependence of muon relaxation rate shows NFL behaviors for optimal composition $x = 0.3$. A maximum of zero temperature penetration depth at $x = 0.3$ is also observed.

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