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Lower Critical Fields and the Anisotropy in $PrFeAsO_{1-y}$ Single Crystals RYUJI OKAZAKI, Department of Physics, Kyoto University, Kyoto 606-8502, Japan, MARCIN KONCZYKOWSKI, C.J. VAN DER BEEK, Laboratorie des Solides Irradies, Ecole Polytechnique, 91128, Palaiseau, France, TOMONARI KATO, KEN-ICHIRO HASHIMOTO, MASAAKI SHIMOZAWA, HIROAKI SHISHIDO, MINORU YAMASHITA, TAKASADA SHIBAUCHI, Department of Physics, Kyoto University, Kyoto 606-8502, Japan, MOTOYUKI ISHIKADO, SHIN-ICHI SHAMOTO, Quantum Beam Science Directorate, JAEA, Tokai, Naka, Ibaraki 319-1195, Japan, HIJIRI KITO, AKIRA IYO, HIROSHI EISAKI, Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki 305-8568, YUJI MATSUDA, Department of Physics, Kyoto University, Kyoto 606-8502, Japan, Laboratorie des Solides Irradies, Ecole Polytechnique, 91128, Palaiseau, France — By utilizing miniature Hall-sensor array, we evaluated the lower critical fields H_{c1} in Fe-based oxipnictide $PrFeAsO_{1-y}$ single crystals for $\boldsymbol{H} \parallel c$ and $\boldsymbol{H} \parallel ab$-planes. The temperature dependence of H_{c1} for $\boldsymbol{H} \parallel c$ is well scaled by the in-plane penetration depth and is consistent with a full-gap superconducting state. The anisotropy of penetration depths at low temperatures is estimated to be $\simeq 3$, which is much smaller than that of coherence lengths. This indicates the multiband superconductivity, in which the active band for the superconductivity is more anisotropic.

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