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Muon spin relaxation and hyperfine-enhanced ^{141}Pr nuclear spin dynamics in (Pr,La)Os_4Sb_{12} and Pr(Os,Ru)$_4Sb_{12}$[1] LEI SHU, D.E. MACLAUGHLIN, U. Calif., Riverside, W. HIGEMOTO, R.H. HEFFNER, K. OHISHI, T.U. ITO, JAEA, Tokai, Japan, Y. AOKI, Y. TUNASHIMA, Y. YONEZAWA, S. SANADA, D. KIKUCHI, H. SATO, TMU, Tokyo, Japan, K. ISHIDA, Kyoto U., Kyoto, Japan, R. KADONO, A. KODA, KEK, Ibaraki, Japan, O.O. BERNAL, Calif. State U., Los Angeles, H. SUGAWARA, U., Tokushima, Tokushima, Japan, N.A. FREDERICK, W.M. YUHASZ, T.A. SAYLES, T. YANAGISAWA, M.B. MAPLE, U. Calif., San Diego — The longitudinal-field muon relaxation experiments have been carried out in the Pr,La)Os_4Sb_{12} and Pr(Os,Ru)$_4Sb_{12}$ alloy systems. At low temperatures, the dynamic fluctuations are involved in muon relaxation in addition to the contribution from a distributions of static muon local fields. The temperature and concentration dependencies of the muon damping rate Λ indicate that this dynamic contribution is due to ^{141}Pr nuclear magnetism, which is enhanced by hyperfine coupling to the Pr^{3+} Van Vleck susceptibility. Further evidence comes from the field dependence of Λ, which is in reasonable agreement with the modified model for muon spin relaxation by dipole-coupled nuclear spins.

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