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**Effect of Pressure on Superconductivity and the Kondo-Lattice Coherence Temperature in $Ce_{1-x}R_xCoIn_5$ with $R$ = Yb, Y, Gd**[1] BENJAMIN WHITE, JAMES HAMLIN, MARC JANOSCHEK, LEI SHU, RYAN BAUMBACH, KEVIN HUANG, M. BRIAN MAPLE, University of California, San Diego — Generally, rare-earth substitution for Ce in the heavy fermion superconductor $CeCoIn_5$ suppresses superconductivity rapidly. However, it was recently reported that the correlated electron ground state of $Ce_{1-x}Yb_xCoIn_5$ is stabilized over an anomalously large range in $x$, perhaps because of cooperative valence fluctuations of the Ce and Yb ions. Motivated by this possibility, we studied the effect of applied pressure on the superconducting critical ($T_c$) and Kondo-lattice coherence ($T^*$) temperatures of $Ce_{1-x}R_xCoIn_5$ with $R$ = Yb, Y, and Gd in order to compare the effect of Yb substitution with other magnetic and non-magnetic rare-earth ion substitutions. We performed electrical resistivity measurements under pressures up to a maximum of ∼2.3 GPa in a piston-cylinder clamped high pressure cell using a 50:50 mixture of $n$-pentane and isoamyl alcohol for the pressure transmitting medium. It was found that the variations of $T_c$ and $T^*$ in $Ce_{1-x}R_xCoIn_5$ under pressure were approximately independent of $R$. This result implies that the effect of pressure is independent of the magnetic configuration of the rare-earth ion being introduced.

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