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**Magnetic Structure of  $\text{Ce}(\text{Mn}_{1-x}\text{Cu}_x)_2\text{Si}_2$**  GAN LIANG, Sam Houston State University, F. YEN, University of Houston, S. KEITH, Sam Houston State University, Y.Y. XUE, University of Houston — The magnetic structure of the  $\text{Ce}(\text{Mn}_{1-x}\text{Cu}_x)_2\text{Si}_2$  ( $0 \leq x \leq 1$ ) series, which evolves from a non-magnetic Kondo-heavy-fermion system at  $x=1$  to a 3d-antiferromagnetically ordered mixed valence system at  $x=0$ , has been studied by both temperature and field dependent magnetization ( $M$ ) measurements using a SQUID magnetometer. Data were taken in both zero-field-cooled (ZFC) and field cooled (FC) processes. It is found that for  $0 \leq x < 0.4$ , Neel temperature decreases rapidly with the increase of the Cu concentration  $x$ . In the range of  $x$  from  $0.4 \leq x < 0.8$ , ferromagnetic phase is observed below 150 K, and both the ordering temperature  $T_c$  and Curie-Weiss  $\theta$  decrease with the increase of  $x$ . For  $x \geq 0.8$ , the  $M$  (T) curves are reversible and display paramagnetic behavior. Thus, the system is non-magnetic as it approaches heavy-fermion compound  $\text{CeCu}_2\text{Si}_2$ . A magnetic phase diagram is proposed for this compound series.

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