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Title:	Calorimetric study of the superconducting and normal state properties of $\text{Ca}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$
Authors:	Singh, Surjeet (/jspui/browse?type=author&value=Singh%2C+Surjeet)
Keywords:	Calorimetric study Single crystals Lower temperature Phase diagram
Issue Date:	2012
Publisher:	IOP Science
Citation:	Journal of Physics: Conference Series 391(1),012120
Abstract:	We present a calorimetric study on single crystals of $\text{Ca}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ($x = 0, 0.032, 0.051, 0.056, 0.063$, and 0.146). The combined first order spin-density wave/structural transition occurs in the parent CaFe_2As_2 compound at 168 K and gradually shifts to lower temperature for low doping levels ($x = 0.032$ and $x = 0.051$). It is completely suppressed upon higher doping $x \geq 0.056$. Simultaneously, superconductivity appears at lower temperature with a transition temperature around $T_c \sim 14.1$ K for $\text{Ca}(\text{Fe}_{0.937}\text{Co}_{0.063})_2\text{As}_2$. The phase diagram of $\text{Ca}(\text{Fe}_{0.937}\text{Co}_{0.063})_2\text{As}_2$ has been derived and the upper critical field is found to be $\mu_0 H(c)_2 = 11.5$ T and $\mu_0 H(ab)_2 = 19.4$ T for the c and ab directions, respectively.
Description:	Only IISERM authors are available in the record.
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