Determination of critical exponents and order of phase transition in the LaFe$_{11.14}$Co$_{0.66}$Si$_{1.2}$ alloy

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Critical exponents ($\beta$, $\gamma$, $\delta$) and magnetic phase transition of the LaFe$_{11.14}$Co$_{0.66}$Si$_{1.2}$ alloy were investigated. The ingot sample was obtained by arc – melting under the low pressure Ar atmosphere. Subsequently the alloy was annealed at 1323K for 15 days. Magnetic measurements at various temperatures allowed to study critical exponents by Kouvel-Fisher method. Additionally, magnetic investigations allowed to determine the order of phase transition from ferro- to paramagnetic state based on the Landau theory.

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