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 (β, γ, δ) 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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