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Electrical and magnetic properties of NdAuGe compound

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Abstract content
 (Max 300 words)

We report the electrical and magnetic properties of the hexagonal NdAuGe, through the measurement of X-ray diffraction (XRD), electrical resistivity ($\rho(T)$), magnetic susceptibility ($\chi(T)$) and magnetization ($M(H)$). XRD data indicate a hexagonal NdPtSb-type structure with space group $P63mc$. Result of electrical resistivity shows a metallic – like behavior below 150 k and a broad curvature above 150 k. The low temperature $\chi(T)$ data indicate the onset of a magnetic transition. $\chi(T)$ data at low temperature in zero field-cooled (ZFC) indicates a magnetic phase transition at temperature $T_N = 7.8$ k. The high temperature $\chi(T)$ data follow the Curie – Weiss relation and give effective moment value μ_{eff} slightly reduced from the expected value $3.62 \mu_B$ of the free Nd⁺³ -ion. ZFC and FC (field cooling) $\chi(T)$ shows a bifurcation below $T_f = 13$ k.

Apply to be
 considered for a student
 award (Yes / No)?

yes

Level for award
 (Hons, MSc,
 PhD)?

PhD

Main supervisor (name and email)
and his / her institution

Prof Moise Tchoula Tchokonte / University of the Western Cape

Would you like to
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 Proceedings (Yes / No)?

Yes

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