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Superconductivity in $ScGa_3$ and $LuGa_3$[1] ETERI SVANIDZE, EMILIA MOROSAN, Physics and Astronomy Department, Rice University — We are reporting low-temperature superconductivity in single crystals of $ScGa_3$ and $LuGa_3$. While the latter compound had been listed as a superconductor before, superconductivity in the former compound had never been observed, and characterization of the low-temperature state was lacking in both compounds. By measurements of magnetization, specific heat and resistivity, we show that RGa_3 (R = Sc and Lu) are conventional BCS superconductors with T_c around 2.3 K and the upper critical field less than 240 Oe. The experimental results agree with band structure calculation estimate of the critical temperature.

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