

# Turkish Journal of Physics

Turkish Journal

of  
Physics

Peculiarities of the Electric and Thermoelectric Properties of GaTe

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**Abstract:** Measurements of electrical conductivity, Hall coefficient and thermoelectric power were carried out over the temperature range 136--563 K for GaTe compound grown in single crystal form by modified Bridgman technique. The crystals obtained had Positive-type conductivity with a hole concentration of  $3.8 \times 10^{12} \text{ cm}^{-3}$  at room temperature. Conductivity and Hall mobility at room temperature were evaluated as  $4.4 \times 10^{-3} \text{ ohm}^{-1} \text{ cm}^{-1}$  and  $7079 \text{ cm}^2/\text{V} \cdot \text{s}$ , respectively. The energy gap width of 1.5 eV was found. The effective mass of holes and electrons at room temperature were 4.16  $m_0$  and 0.1174  $m_0$ , respectively

**Key Words:** GaTe, Electrical conductivity, Thermoelectric power.

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Turk. J. Phys., **30**, (2006), 95-102.

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