

Pyrometer Unit for GaAs Substrate Temperature Control in an MBE System

Sergei Alexandrov, GA Gavrilov, AA Kapralov, Galina Sotnikova, D. F. Chernykh, A. N. Alekseev, A.L. Dudin, I. V. Kogan, A.P. Shkurko.

- January 2004
- Technical Physics 49(1):123-127

Abstract

An optical pyrometer designed for precision measurement of the GaAs substrate temperature during MBE growth is considered. The pyrometer can be calibrated against a certain characteristic absolute temperature that is visually determined from a change in the RHEED pattern. This enables one to calculate the absolute temperature of the substrate with regard to its radiant emissivity and minimize the inaccuracy of radiation temperature measurement. The inaccuracy is associated with the deposition of growth products on the pyrometer window.