

Growth of low EPD InP crystals

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Abstract

Dislocation free (DF) ($\text{EPD} < 500/\text{cm}^2$) S doped InP crystals have been grown by modified LEC method. 2-inch diameter InP crystals were grown by thermal baffle technology and 3-inch diameter crystals were grown by phosphorus vapor controlled LEC method (PC-LEC). The DF crystals become somewhat rectangular in shape and the faceting on the cylindrical part of the ingots takes place during the growth. To grow the single crystals with low EPD, it needs to use the stoichiometric polycrystals.