

58. GROWTH AND CHARACTERIZATION OF BENZIMIDAZOLE SINGLE CRYSTAL

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Optical communications has gained a wide attraction and are replacing the conventional communications systems due to their enormous applications. This has been possible only due to the modulation of light. Light and its characteristics are studied and modulated and used in diverse fields. In this paper electro optical modulator is designed using the benzimidazole crystals. Good quality single crystals of benzimidazole (BMZ) have been successfully grown by slow cooling method using methanol as the solvent. The grown crystal belongs to orthorhombic system and the lattice constants were found from the powder X-ray diffraction analysis. The refractive index was determined at two different wavelengths by Brewster's angle method and found to be 1.607 and 1.613 respectively. The relative second harmonic generation (SHG) efficiency of the grown specimen is 4.5 times greater than that of the potassium dihydrogen phosphate (KDP) single crystal.

Keywords: Characterization; Crystal growth

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