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Studies on the Thermal, Mechanical, Dielectric and Photoconductivity Properties of Ammonium Hydrogen Oxalate Hemihydrate Single Crystal for NLO Applications

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Abstract: Good quality single crystals of nonlinear optical materialAmmonium hydrogen oxalate hemihydratewhich crystallizes in Orthorhombic crystalsystem and belonging to space group Pnma were successfully grown from an aqueous solution by slow evaporation method. The grown crystals were characterised by single crystal X-ray diffraction, Thermal studies, Vickers microhardness test, dielectric studies and photoconductivity study. The Nonlinear optical (NLO) property of the crystal was confirmed by the Kurtz-Perry powder second harmonic generation test.

Keywords :X-ray diffraction**,** Nonlinear crystals, dielectric studies, single crystals, organic compounds.

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