

## 8. Characterization of Ferric Chloride Non Linear Optical Material

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### ABSTRACT

Well-characterized single crystals are the building blocks of recent technologies of the modern science. Several important technologies like microelectronics, optoelectronics, communication, computer, photonics, laser information, science, biosensor and nuclear science etc. Elements and their chemical compound are found in three state i.e. solid, liquid and gases. Crystal growth is a vital and fundamental part of the material science. The job of the crystal growth is to prepare large specimen of crystalline material such that there is complete crystallographic continuity across a given specimen in all direction. There are two principal reasons for the deliberate growth of single crystal.

- 1) Many physical properties of solid are obscured or complicated by the effect of grain boundaries.
- 2) The full range of tensor relationship between applied physical cause and observed effect can be obtained only if the full internal symmetry of the crystal structure is mentioned throughout the specimen.

Most of the industrial application of crystallization involves crystallization from melt. Melt growth is commercially the most important method of crystal growth.

Knowing the enormous importance and technique relevance of this high technology crystal growth area Universities and colleges are introducing this subject to the student at various levels. Today the growth of single crystal is both scientifically and technologically important, and the application of such crystal at the range from electronics to thermal management to synthetic gemstones.

**Key words:** - Non linear, Crystal Growth, Dielectric constant.