



## Chapter 7

# CRYSTAL DEFECTS AND DEFINITIONS

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### INTRODUCTION

The crystal structure is formed by the arrangement of atoms in a three-dimensional manner according to a certain order. Although at first glance these sequences seem to be flawless, some defects occur during their formation.

A faultless internal structure, in other words, the ideal crystal is actually ignored. Because every ideal crystal has to end in a place and have a grain boundary, which is a planar defect. Crystal defects have advantages and disadvantages. Deformation and plastic deformation are made using these defects. We sometimes use crystal defects to change the properties of the materials ourselves. These defects have a major effect on the electrical and optical properties of crystals. With these defects, we can determine the electrical and optical properties. Crystal defects are examined under 4 main titles.

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deformation. If a low energy structure is desired, lower energy structures can be obtained by forming a strain due to the mismatch between the two lattices as it occurs at the compatibility interface. The defect that occurs in each crystal structure is unique to the material and these properties can be diversified according to different conditions and conditions and the desired material can be produced with ideal properties and different properties can be gained through the variables. Deterministic and stochastic calculations can be used. Deterministic and stochastic calculations can be used to determine these properties in future studies<sup>(5)</sup>.

**Keywords:** Crystal Structure, Crystal Defects, Deformation.

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