
Kinetics Study of Non isothermal crystallization in SeX chalcogenide glasses

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Abstract

Glass chalcogenide have become the subject of intensive research because of their potential applications in technologies. Several studies have developed to understand their properties; the thermal properties are very important which are based on thermoanalytical techniques such as differential thermal analysis DTA, or differential scanning calorimetry DSC. In general the chalcogenide glasses are based on three chalcogen elements Se,Te,S in conjunction with more electropositive elements as As, Sb and Bi. A study of kinetics of non isothermal crystallization process of SeX system was reported and interpreted in this work by different models based on JMA equation. From the differential scanning calorimetry DSC traces obtained under dynamic conditions, the energy of glass transition was determined by Lasocka relation, the activation energy of growth process and the value of n and m which are numerical factors depending on crystallization mechanisms are evaluated.

Keywords: Chalcogenide glass, glass transition, thermal parameter

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