Chapter 5

Scope for Future Work
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Chalcogenide glasses are emerging as interesting materials for application in various fields of technology. The advantage of these materials is that their optical/electrical/thermal properties can be engineered according to specific technological requirement.

In the present study the thermal stability and crystallization mechanism of Ge_{25-x}Se_{75}Sbx (x = 12, 15 and 18) & Ge_ySe_{94-y}In_6 (y = 10, 15 and 20) glasses have been investigated. For present glassy systems following studies can be further carried out to explore their properties.

- Effect of annealing can be investigated on these samples to find the impact of structural relaxation on thermal properties of these samples.
- Optical characterization of thin films of GeSeIn glassy system to find utility of thin films of GeSeIn chalcogenide glasses for sensor application.
- It is also proposed to study photoconductivity as well as photosensitivity of these glassy systems.
- GeSeSb chalcogenide glasses are interesting materials for fabrication of IR optical fibers, so it is proposed to study optical, electrical, opto-electrical, properties to improve thermo-mechanical properties.
- It is also proposed to study the effect of photo/ion exposure to investigate change in optical parameters according to need in photonics.
- To investigate chemical bonds or functional groups present in glassy systems Raman spectroscopy can be performed.
References


[22] M. S. Iovu, E. I. Kamistos, C. P. E. Varsamis, P. Boolchand, M. Popescu, Raman spectram of As$_x$Se$_{100-x}$ and As$_{40}$Se$_{60}$ glasses doped with metals, Chalcogenide letters 2(2005) 21.

