
Silver in telluride glasses

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Abstract

Comparatively to other chalcogenide glasses, the telluride glasses can exhibit a large infrared transparency window can extend up to 35 μm . The structure of pure telluride glasses is mainly governed by covalent bonding but once other elements or compounds are incorporated, a competition between ionic and covalent bonding can occur. Typically, the addition of silver or silver halide shows an impact on the optical and electrical properties of some telluride glass families. In this presentation, we will focus on two different systems based either on As_2Te_3 or GeTe_4 matrixes in which Ag or AgI are added in the chalcogenide glass compositions. In addition, the structural role of silver in such glasses will be discussed.

Keywords: Chalcogenide glasses, Electrical properties, Structure

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