

عنوان مقاله:

Transport properties of Super Ionic AgI-Ag₂O-V₂O₅ Glasses containing TeO₂

محل انتشار:

نهمین کنفرانس ماده چگال (سال: 1387)

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خلاصه مقاله:

We have presented the conductivity studies of super ionic conducting glass system xAgI : (95-x) [Ag₂O:2V₂O₅]: 5TeO₂, where $40 \leq x \leq 65$ investigated by impedance spectroscopy. The spectrum was recorded at temperatures from 296K to 353K with frequencies range 10 Hz to 2MHz. The glass samples were characterized by X-ray, FTIR and DSC studies. The measurements revealed that the conductivity increases from $\sigma = 7.62 \times 10^{-7}$ S/cm to 1.15×10^{-4} S/cm with increasing AgI content, while the activation energy decreases from 0.49eV to 0.30 eV. The FTIR spectra reveal that the network structure remains essentially the same with AgI concentration. The frequency dependence of the ac conductivity follows the universal power law with a small deviation in the low frequency region due to electrode polarization. The temperature dependent conductivity obeys the Arrhenius relationship. The dielectric properties were calculated using impedance data for all the glass samples

کلمات کلیدی:

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