

عنوان مقاله:

COMPOSITION DEPENDENCE OF SPECTROSCOPIC PROPERTIES AND TRANSPARENCY OF $\text{SiO}_2\text{-TiO}_2\text{-Na}_2\text{O}$ GLASS IN 200-1100 nm

محل انتشار:

مجله علم مواد و مهندسی ایران، دوره 9، شماره 2 (سال: 1391)

تعداد صفحات اصل مقاله: 5

نویسندگان:

M. Ghamari

B. Mirhadi

خلاصه مقاله:

Abstract: Glassy samples with $x\text{TiO}_2 \cdot 3\text{SiO}_2 \cdot \text{Na}_2\text{O}$ composition that ($0 \leq x \leq 40$) (molar) were casted in refractory steel molds after melting at air as parallel palates. After polishing and getting to desire thickness, UV-VIS spectrometry in 200 -1100 nm was measured on samples. Glass density was measured by a sensitive micro balance and was found that by increasing titanium dioxide of glasses, glass density increases. Results from UV-VIS spectroscopy show that increase of titanium dioxide decreases light transmission and this value reaches zero for sample with 40 molar percent of titanium dioxide. One reason of this reduction is formation of crystalline phase in glass, in which, by increasing titanium content crystalline phase will be increased, results of X-ray diffraction and electron microscopy confirm this claim.

کلمات کلیدی:

glass, spectroscopy, titanium dioxide, optical transmission

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1723264>

