

A New Approach to Fit the Spectral Transmittance Curves of Christiansen Filters

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Abstract

The transmittance of Christiansen filters has been measured recently as a function of the wavelength, thickness, average diameter of the glass grains, and difference of the refractive indices between the glass grains and the immersion liquid. The results, however, could be described neither quantitatively nor qualitatively by the formulae known until now. For this reason, a new approximate formula has been developed and applied to the experimental data. The experimental results can be convincingly fitted by this new formula.