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**The Effect of the Refractive Index of the Medium in Fluorescence Correlation Spectroscopy** SEONCHEOL CHA, SUNG HYUN KIM, DOSEOK KIM, Department of Physics, Sogang University — Fluorescence correlation spectroscopy (FCS) is a useful tool to study diffusional motion in liquids as it measures resident time of a dye molecule in a small excitation volume made by confocal microscopy. Some reports recently predicted that the measurement result of FCS is affected sensitively by the refractive index of liquid medium. To check for this possibility, several liquids having the same viscosity values but different refractive indices were chosen to dissolve dye molecules. The change in the observed diffusion coefficients in solutions having the same viscosity value manifests that care needs to be taken in the common practice of using sucrose to change the viscosity in the FCS experiment.

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