**Refractive index technique using supercritical fluid**

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A method for determining the transport parameters of randomly inhomogeneous media with a porous structure using a supercritical fluid (carbon dioxide) as an immersion agent is proposed. The results of reconstructing the values of probed layers the transport scattering coefficient depending on the refractive index of the saturating fluid are presented. Studies of the relationship between the optical properties of disperse systems with supercritical fluid (SCF) components and the processes of interaction of SCF with condensed media under conditions of spatial limitation of such interaction are of particular interest from the point of view of developing optical methods for diagnosing such systems in relation to intensively developing supercritical fluid technologies.