REGULARIZATION OF A METHOD OF LASER CYTOMONITORING

A.F. Lobkov and E.V. Tereshkin
119899, Moscow State University, Moscow, Russia

The method of laser cytomonitoring allows to receive a size distribution functions of particles and to trace their time evolution with the high time resolution. At an irradiating of cloud of particles by a collateral fascicle of light the task of a scattering is reduced to reversion of a linear integral equation of the first type [1,2]. This task is incorrect and has no uniquely solution [3]. The difficulties of regeneration of the function distribution are connected with a terminating accuracy of measurement a index of dispersion. Application of the above mentioned method [1] demands preliminary dithering before numerical derivation and circumcisions of an experimental index of dispersion. This method is unsuitable for exposition of a scattering on small particles that is connected with to use of the asimptotical solution. For elimination of these shortages has been carried out regularization [4]. In work is used numerical handling of outcomes of optical measurement in terms of functions distribution of size particles. Results obtained in the work show, that regularization of a method laser cytomonitoring improves an exactitude for determination a size distribution functions of particles

References

1.Shifrin.K.S. Vvedenie v optiku okeana.L.: Gidrometeoizdat. 1983
2. Van de Khjulst. Rassejanie sveta malymi chasticami. M.: Inostrannaja literatura. 1961.
3. Tikhonov.A.N., Arsenin.V.JA. Metody reshenija nekorrektnykh zadach. M.:Nauka 1979
4. Shajtan K.V., Lobkov A.F, Timofeev I.B., Lisovskaja I.L., Chizhov A.A., Terjoshkin E.V. "Metod lazernogo citomonitoringa i ego primenenie dlja opredelenija razmerov ehritrocitov"//Biologicheskie membrany 2002(v pechati)

Phone: (095) 939-57-3, Fax: (095) 939-11-15,

E-mail: *sasha@moldyn.ru*