

On the extinction angle in polymer solutions at high rate gradients

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Abstract

The two-member asymptotics of the extinction angle in the shear laminar flow of suspension of rigid ellipsoidal particles have been derived for high rate gradients of the flow. The condition of applicability of the higher-order member is determined. The method of determination of colloidal particles dimensions (macromolecules) from the values of the extinction angle measured at small and high gradients of the flow rate is developed. The method is illustrated on the determination of dimensions of anizaldazine particles in solutions from the experimental curves of the extinction angle dependence on the rate gradient.
