

Abstract Submitted
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Pair diffusion in quasi-one- and quasi-two-dimensional binary colloid suspensions.¹ BINHUA LIN, DAVID VALLEY, STUART A. RICE, HAU MY HO, University of Chicago, BIANXIAO CUI, Stanford University, HAIM DIAMANT, Tel Aviv University — We report the results of measurements of the center of mass and relative pair diffusion coefficients in quasi-one-dimensional (q1D) and quasi-two-dimensional (q2D) binary colloid suspensions. The new results extend the findings of similar studies of one-component q1D and q2D colloid suspensions. Our principal new finding is that the presence of the smaller diameter component can destroy the oscillatory structure of the separation dependence of the q2D relative pair diffusion coefficient of the large particles even though the oscillatory character of the large particle equilibrium pair correlation function remains prominent, and that no such effect occurs with the q1D suspension. An interpretation of these results is proposed.

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