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SPRING COLLEGE ON AMORPHOUS SOLIDS
AND THE LIQUID STATE
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SOLVATION FORCES AND THE ELECTRICAL DOUBLE LAYER

- USEFUL REFERENCES -

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Useful references

Classical D.L.V.O. Theory

1. Verwey, E.J.W., and Overbeek, J.Th.G., 1948, Theory of Stability of Lyophobic Colloids (Elsevier).

Density-Functional Method

2. Saam, W.F. and Ebner, C. 1977, Phys. Rev. A 15, 2566
3. Mermin, N.D., 1965, Phys. Rev. A 13, 1441
For Solvation Forces in Neutral Fluids
4. Gmison, M.J., Rickayzen, G., and Richmond, P., 1980, Molec. Phys. 39, 61 and 1455.
5. Gmison, M.J. and Rickayzen, G., 1981, Molec. Phys. 42, 767.
For Solvation Forces in Charged Fluids
6. Gmison, M.J. and Rickayzen, G., 1981, Molec. Phys. 44, 817,
1982 Molec. Phys. 45, 221 and Chem. Phys. Lett., 71.

Computer Simulation of Neutral Fluids

7. Snook, W. and Henderson, D. 1978 J. Chem. Phys. 68, 2134.
8. Henderson, D., Warrman, E., and Lebowitz, J.L., 1976 Molec. Phys. 32, 1373
9. van Megen, W., and Snook, I.K., 1979, J. Chem. Soc. Faraday II, 75, 1095.
10. Snook, I.K. and van Megen, W., 1979, Phys. Lett. A 74, 332
11. Warrman, E., Henderson, D., and Lebowitz, J.L. 1976 Molec. Phys. 32, 1373
- ~~12. Lane, J.E., et al, 1979, Phys. Rev. A 20, 2147.~~
12. Lane, J.E., et al, 1979, Phys. Rev. A 20, 2147.
Modified Boltzmann Equation Method
13. Levine, S., and Outhwaite, C.W., 1978, J. Chem. Soc. Faraday II, 74, 1670
14. Outhwaite, C.W., Bhuiyan, L.B., and Levine, S., 1980, J. Chem. Soc. Faraday II 76, 1384.

Computer Simulation of Charged Fluids

15. Torrie, G.M. and Valleau, J.P., 1980, J. Chem. Phys. 73, 5807.
16. van Megen, W. and Snook, I.K., 1980, J. Chem. Phys. 73, 5807.
Capacitance of a Dipolar Film
17. Rickayzen, G. and Gmison, M.J., to be published in J. Chem. Soc. Faraday II.
Hard Ions and Dipoles near a Wall
18. Henderson, D. and Blum, L., 1981,
19. Conice S.L. and Chan, D.Y.C., 1980 and 1981