

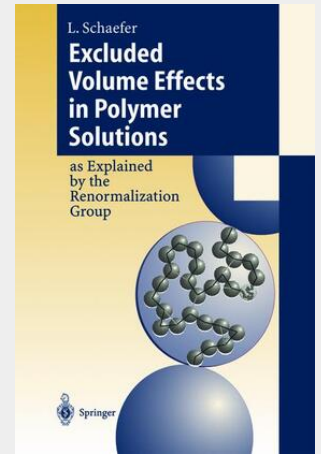
Schäfer

Excluded Volume Effects in Polymer Solutions

as Explained by the Renormalization Group

Schäfer gives a concise overview of the static equilibrium properties of polymer solutions. In the first part diagrammatic perturbation theory is derived from scratch. The second part illustrates the basic ideas of the renormalization group (RG). The crucial role of dilation invariance is stressed. The more efficient method of dimensional regularization and minimal subtractions is worked out in part three. The fourth part contains a unified evaluation of the theory to the one loop level. All the important experimental quantities are discussed in detail, and the results are compared extensively to experiment. Empirical methods of data analysis are critically discussed. The final (fifth) part is devoted to extensions of theory. The first three parts of this book may serve as the basis of a course. Parts four and five are hoped to be useful for detailed quantitative evaluations of experiments.

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