Re-entrant wetting of network fluids

N. R. Bernardino and M. M. Telo da Gama

Centro de Física Teórica e Computacional, Universidade de Lisboa
Av. Prof. Gama Pinto, 2, 1649-003 Lisboa, Portugal

We use a simple mesoscopic Landau-Safran theory of network fluids to show that a re-entrant phase diagram, in the ``empty liquid'' regime, leads to non-monotonous surface tension and re-entrant wetting, as previously reported for binary mixtures. One of the wetting transitions is of the usual kind, but the low temperature transition may allow the display of the full range of fluctuation regimes predicted by renormalization group theory.