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Critical Depletion ROBERTO PIAZZA, STEFANO BUZZACCARO, Politecnico di Milano, ALBERTO PAROLA, Universita della Insubria, JADER COLOMBO, Università della Insubria — Most experimental studies of the effects brought in a colloidal suspensions by the presence of depletion forces have so far been performed on systems where the depletion agent can be regarded as ideal or weakly interacting. Here, by investigating the depletion effects brought in by surfactants that show a liquid-liquid phase separation with water, we shall conversely deal with a situation where long-range spatial correlations are of primary importance in setting the phase behavior of the colloidal fluid. In particular, we shall show that, in the proximity of the critical demixing point, depletion effects merge continuously into critical Casimir effects, displaying distinctive scaling properties. Our results suggests therefore an unified view of these two apparently unrelated phenomena

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