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**A Mean Field Model For the Coexistence of Nematic, Smectic A and Smectic C phases in Liquid Crystals**

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**Abstract:** We present here a mean field model for the nematic-smectic A-smectic C coexistence of a liquid crystal near the NAC point which is a multicritical point. The critical exponents calculated from our model are tricritical exponents for the order parameters, susceptibility and the specific heat. Our results show that if the NAC point is the tricritical point, then our mean field model describes adequately the liquid crystalline system in the coexistence region of the nematic-smectic A-smectic C phases.

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