

Dynamic scaling functions and amplitude ratio for model C

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The dynamic correlation functions of the order parameter ϕ (OP) and the conserved density m (CD) for model C dynamics [1] are considered in their scaling form. The characteristic frequencies and shape functions are calculated in one loop order using the fixed point values of the model parameters in two loop order [2].

The dynamic amplitude ratio of characteristic frequencies of the OP $\omega_\phi(k, \xi)$ and the CD $\omega_m(k, \xi)$ [3]

$$R(k, \xi) = \lim_{k \rightarrow 0} \left[\frac{\omega_m(k, \xi)}{\omega_\phi(k, \xi)(k\xi)^2} \right] \quad (1)$$

turns out to be in the asymptotic region $R_{asymp} = 2.08$. For fixed point parameters the two loop values [2] have been used. We also generalize the definition of the amplitude ratio in order to obtain its values in the whole plane of wave vector and inverse correlation length.

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