Collective modes and Landau parameters in relativistic non-linear models

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Abstract

Using the generating functional method, the in-medium sigma and omega meson propagators have been determined in relativistic non-linear models, and, collective modes in nuclear matter have been studied. We have also calculated the Landau parameters in these models. The links between the collective modes obtained in the space-like region and the Landau parameters have been discussed. As an application, the longitudinal response functions for quasielastic electron scattering on nuclei have been determined.