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In-medium $\pi\pi$ correlation induced by partial restoration of chiral symmetry DAISUKE JIDO, Yukawa Institute for Theoretical Physics, Kyoto University, TETSUO HATSUDA, University of Tokyo, TEIJI KUNIHIRO, Yukawa Institute for Theoretical Physics, Kyoto University — We show that both the linear and nonlinear chiral models give an enhancement of the $\pi\pi$ cross section near the two-pion threshold in the scalar-isoscalar channel in nuclear matter. The reduction of the chiral condensate, i.e. the partial chiral restoration in nuclear matter, is responsible for the enhancement in both cases. We conclude that proper wavefunction renormalization is essential for consistent treatment in the nonlinear chiral model.

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