Université Paris-Saclay
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Séminaire de Physique Nucléaire Théorique

Two-nucleon bound states in infinite nuclear matter

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In free space, the interaction between a proton and a neutron allows the formation of the deuteron, the only two-nucleon bound state in nature. Although the force between two neutrons (or two protons) is also attractive, it is not strong enough to hold a bound state in the form of a di-nucleon. However, this picture changes drastically when the two-nucleon interaction takes place in nuclear matter. In this seminar the formation of di-nucleons is discussed as well as its implications on the single-particle spectrum, superfluidity and the resulting EoS for nuclear matter.

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