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Superfluids of charged mesons

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We present various results regarding the chemical potential driven meson condensation. A system of mesons at vanishing temperature can undergo a phase transition to various superfluid phases by varying the isospin chemical potential and/or the strange quark chemical potential. In the condensed phase one of the charged mesons becomes the superfluid mode, the mesons are mixed and their masses depend in a nontrivial way on the isospin and strange quark chemical potential. The leptonic decay channels are also affected by the meson condensation, indeed some of these channels have a peculiar nonmonotonic behavior as a function of the isospin chemical potential.

Primary author: MANNARELLI, Massimo (LNGS)

Co-author: MAMMARELLA, Andrea (INFN)

Presenter: MANNARELLI, Massimo (LNGS)

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