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## QCD with Wilson fermions and isospin chemical potential at finite and zero temperature

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We study QCD with Wilson fermions in the presence of an isospin chemical potential  $\mu_I$ . At zero temperature, condensation of iso-positive pions is expected to occur as soon as  $\mu_I$  reaches half the pion mass. By looking at the isospin density and the mass spectrum of mesons as a function of  $\mu_I$ , we investigate this pion condensation on the lattice and extend the study to non-zero temperature. By increasing  $\mu_I$  further, we also look for a possible condensation of additional mesons and for a saturation transition.

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