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Competing instabilities in correlated electronic systems in the FLEX framework IRINA BARIAKHTAR, Boston College, ALEXANDER NAZARENKO, Sonic Software, JAN R. ENGELBRECHT, Boston College — We consider the Hubbard model in the regime of strong correlations on bipartite and frustrated lattices. While it is well established that on a bipartite lattice at half filling the leading instability is in the SDW channel, upon varying the lattice symmetry and the electron concentration, competing instability channels emerge. We study possible channels such as pair, magnetic and charge correlations that can be either commensurate or incommensurate. We use the fluctuation-exchange approximation to investigate the development of, and competition between, different kinds of incipient instabilities in these particle-particle and particle-hole channels.

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