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*Localization and delocalization for interacting quasiperiodic particles.* Preliminary report.

We show that a system of two interacting 1D discrete quasiperiodic particles demonstrates Anderson localization at large disorder assuming that the single-particle potential does not have cosine-type symmetries. In case of symmetries, our methods show localization away from zero energy.

We also study the regime of fixed disorder and strong interaction, at the energy region corresponding to particles being bound together forming a 1D quasiparticle ("droplet"). We show that droplet states can be localized or de-localized, depending on the quasiperiodic phase difference and symmetries of the potential.

The talk is based on joint works with J. Bourgain and S. Jitomirskaya. (Received September 24, 2018)