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**Phase transition from maximal quantum chaos to a charge glass in a generalized Sachdev-Ye-Kitaev model** IONUT-DRAGOS POTIRNICHE, SNIR GAZIT, EHUD ALTMAN, University of California, Berkeley — The Sachdev-Ye-Kitaev (SYK) model is a solvable model of interacting Fermions showing a maximally chaotic non-Fermi liquid fixed point. We extend this model by adding 2-site density-density interactions, which, if sufficiently strong, give rise to a dynamical quantum phase transition from the chaotic state to a non-ergodic charge glass phase. We investigate this transition numerically using exact diagonalization and analytically using an expansion in fluctuations around the non-fermi liquid fixed point. In particular, we study the instabilities toward replica symmetry breaking induced by the 2-site interactions.

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