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Tunable Floquet Majorana Modes in Coupled Quantum Dots YANTAO LI, Sun Yat-sen University & Indiana Univ - Bloomington, ARIJIT KUNDU, Indiana Univ - Bloomington, FAN ZHONG, Sun Yat-sen University, BABAK SERADJEH, Indiana Univ - Bloomington — We study theoretically the appearance of Floquet Majorana fermions in a double quantum dot system coupled by a superconducting lead and driven by separate AC potentials. We argue that the system could be fine tuned controllably in the expanded parameter space of the drive frequency, amplitude, and phase difference across the two dots. While these Majorana fermions are not topologically protected, the all-electric, highly tunable setup could provide a realistic system for observing the exotic physics associated with Majorana fermions.

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