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Superfluidity of Feshbach resonant atoms in an optical lattice JUHA JAVANAINEN, TUN WANG, SUSANNE YELIN, U of Connecticut — We study atomic and molecular currents in a one-dimensional optical ring lattice for a Fermi gas in the vicinity of a Feshbach resonance by direct numerical diagonalization of small model systems. A rotational counterpart of flux quantization is used to demonstrate that a fraction of the current is carried by particles with twice the mass of an atom, which suggests pairing and superfluidity.

Juha Javanainen U of Connecticut

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