Abstract Submitted
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Bound states in the continuum in a multi-electron system[1] RAHUL HARDIKAR, GONZALO ORDONEZ, Butler University — Bound states in a continuum (BIC) occur due to quantum interference of two identical adatoms in a one-dimensional (1D) band. In the past such states have been studied for a one-electron system using several analytical and theoretical methods. We extend the idea of BIC to a multi-electron system. To study this numerically we use the pure Hubbard hamiltoninan and add impurity sites at specific locations. Using this variant of the Hubbard model and an exact diagonalization method we prove that BIC can exist for multi-electron systems. We will also show theoretical proof of such states using the Bethe-Ansatz method

[1]Holcomb Awards Committee - Butler University

Rahul Hardikar
Butler University

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