Abstract Submitted
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Odd frequency Density Waves[1] YARON KEDEM, Nordic Institute for Theoretical Physics (NORDITA), Roslagstullsbacken 23, S-106 91 Stockholm, Sweden, ALEXANDER BALATSKY, Institute for Materials Science, Los Alamos National Laboratory, Los Alamos, NM 87545, Nordic Institute for Theoretical Physics (NORDITA), Roslagstull — A new type of hidden order in many body systems is explored. This order appears in states which are analogues to charge density waves, or spin density waves, but involve anomalous particle hole correlations that are odd in time and frequency. These states are shown to be inherently different from the usual states of density waves. We discuss a method to experimentally observe the new type of pairing by measuring the density-density correlation, both in time and space, where a clear distinction between odd and even correlations can be detected. An order parameter for these states is defined and calculated for a simple model, eliminating the physical nature of this phenomenon.

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