**Superstripes, supersolids, supermetals and room temperature resonant multi-gap superconductivity at a Fano-Feshbach pair transfer resonance**

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A new Physics is emerging from the discovery of Superstripes [1,4] Supersolids [5] and Supermetals phases of condensed matter where a robust macroscopic quantum coherent "order in the k-space", manifested by superfluidity and superconductivity, coexist with ordering "in the real space" at temperature lower than room temperature.

We show that this novel electronic state of matter emerges in complex material tuning the chemical potential by strain and doping at an electronic topological Lifshitz transitions. We focus on amplification of the superconducting critical temperature driven by an energy dependent strong electron phonon coupling at a Khon-anomaly with incipient charge density wave instability [4].

**References**

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