Interplay of Hidden Order, Quantum Criticality and Superconductivity in the Physics of 2D Heavy, Ultracold Atomic and Sulfur Hydride Fermions.

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Abstract.

In the presentation of talk, we will discuss about the possible single boson nature of hidden order, quantum criticality and superconductivity in the physics of 2D heavy, ultracold atomic and sulfur hydride fermions. First, we demonstrate that this nature displays in experiments on heavy fermion compounds and then introduce model, which results may be consistent with experimental ones. We predict the single boson physics for ultracold atomic and sulfur hydride fermion materials.