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## **【186】 Electronic instabilities of the kagome metals AV<sub>3</sub>Sb<sub>5</sub>**

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The recent discovery of AV<sub>3</sub>Sb<sub>5</sub> (A=K,Rb,Cs) has uncovered an intriguing arena for exotic Fermi surface instabilities in a kagome metal, displaying charge ordered and superconducting phases with unconventional properties. In this presentation I will discuss the understanding of these instabilities that emerges from a range of –partially complementary and partially controversial –experiments and our recent theoretical studies. As a first step, we develop a theory of electronically mediated charge density wave formation. Additionally, we show that the sublattice interference mechanism is central to understand the formation of superconductivity in kagome metals. Altogether, the existing body of work establishes AV<sub>3</sub>Sb<sub>5</sub> as platform for correlated quantum phases of great promise.

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