

Abstract Submitted
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Lifshitz transitions in the underdoped cuprates with spin-density wave order¹ JIE LIN, Materials Science Division, Argonne National Laboratory — It has recently been proposed that a neck-disrupting Lifshitz transition can explain the disappearance of quantum oscillations and diverging cyclotron mass observed in underdoped YBCO. We found that both pocket-disappearing and neck-disrupting types of Lifshitz transitions can be realized in two-dimensional spin-density wave models for underdoped cuprates. Close to Lifshitz transitions, the impurity relaxation rate acquires strong energy-dependence. The thermoelectric power is strongly enhanced, and behaves differently for the two types of transitions.

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