Kondo effect in strained Kagome ribbons

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Kagome systems have received significant attention in recent years, primarily due to the discovery of several Kagome metals, such as AV3Sb5 [1]. These systems present rich physics that can be explored across different branches. Essentially, the Kagome lattice, in a tight binding description, is a 2D monolayer that features a unique band structure, combining dispersive bands-like graphene-with a completely flat band in its energy spectrum. This makes it an ideal system for analyzing both topology and correlation effects. Here, we focus on the latter by analyzing the Kondo effect in Kagome nanoribbons under the action of strain. To analyze the model itself, we use the Single Impurity Anderson Model (SIAM) and the numerical renormalization group (NRG). Our results indicate that by manipulating the strain, we can control the suppression or realization of the Kondo effect in our impurity-plus-ribbon system, as well as the size of the Kondo cloud.

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