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Kondo Screening Cloud and Charge Quantization in Mesoscopic Devices RODRIGO G. PEREIRA, NICOLAS LAFLORENCIE, IAN AFFLECK

— We propose that the finite size of the Kondo screening cloud, ξ_K , can be probed by measuring the charge quantization in a one-dimensional system coupled to a small quantum dot. When the chemical potential in the system is varied at zero temperature, one should observe charge steps that are influenced by the Kondo effect when the system size is comparable to ξ_K . We show that the ratio of the width of the plateaus with an odd number of electrons to the width of the plateaus with an even number is a universal scaling function of ξ_K/L .

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