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NRG study of the transmission phase shift through a two-level quantum dot with Kondo correlations ARNE ALEX, ANDREAS WEICHSELBAUM, JAN VON DELFT, Arnold Sommerfeld Center, LMU Munich — The transmission phase shift through a Kondo quantum dot has been predicted to take the universal value $\pi/2$ in the center of the Kondo valley[1]. Several experimental studies using a quantum dot embedded in an Aharonov-Bohm ring have aimed to check this prediction, which was finally verified in [2]. A recent experiment[3] has obtained particularly clean results for the transmission phase shift by eliminating the effect of backscattering. We provide a Numerical Renormalization Group study of a two-level quantum that shows very good qualitative agreement with these new experimental results. The effect of the second level, with width different from the first, is crucial for accounting for some of the observed experimental details.

[1]U. Gerland *et al.*, Phys. Rev. Lett., 84, 3710 (2000).
[2]M. Zaffalon *et al.*, Phys. Rev. Lett., 100, 226601 (2008).
[3]S. Takada *et al.*, to be published (2012).

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