Resistivity crossover in the power-law Kondo systems KAZUTO
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CEMS, RIKEN, RIKEN AICS — We calculate temperature-dependent resistivity
of Kondo systems with divergent structure of the density of states around the Fermi
energy, which is given by $\rho(\omega) \propto |\omega|^{-p}$ $(0 < p < 1)$, via Wilson's numerical renor-
malization group method. We clarify that these systems show specific resistivity
crossover scaled with Kondo temperature T_K. Characteristic power-law divergence
of resistivity in the Kondo region $(T \gg T_K)$ leads to a novel dependence of the
resistivity minimum. We also elucidate that the spectral density at the ground state
shows peak structures around $\omega \simeq \pm T_K$ and a dip structure around the Fermi en-
ergy, whose structure reflects the resistivity crossover. Our findings might shed light
on Kondo effects on a graphene.

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