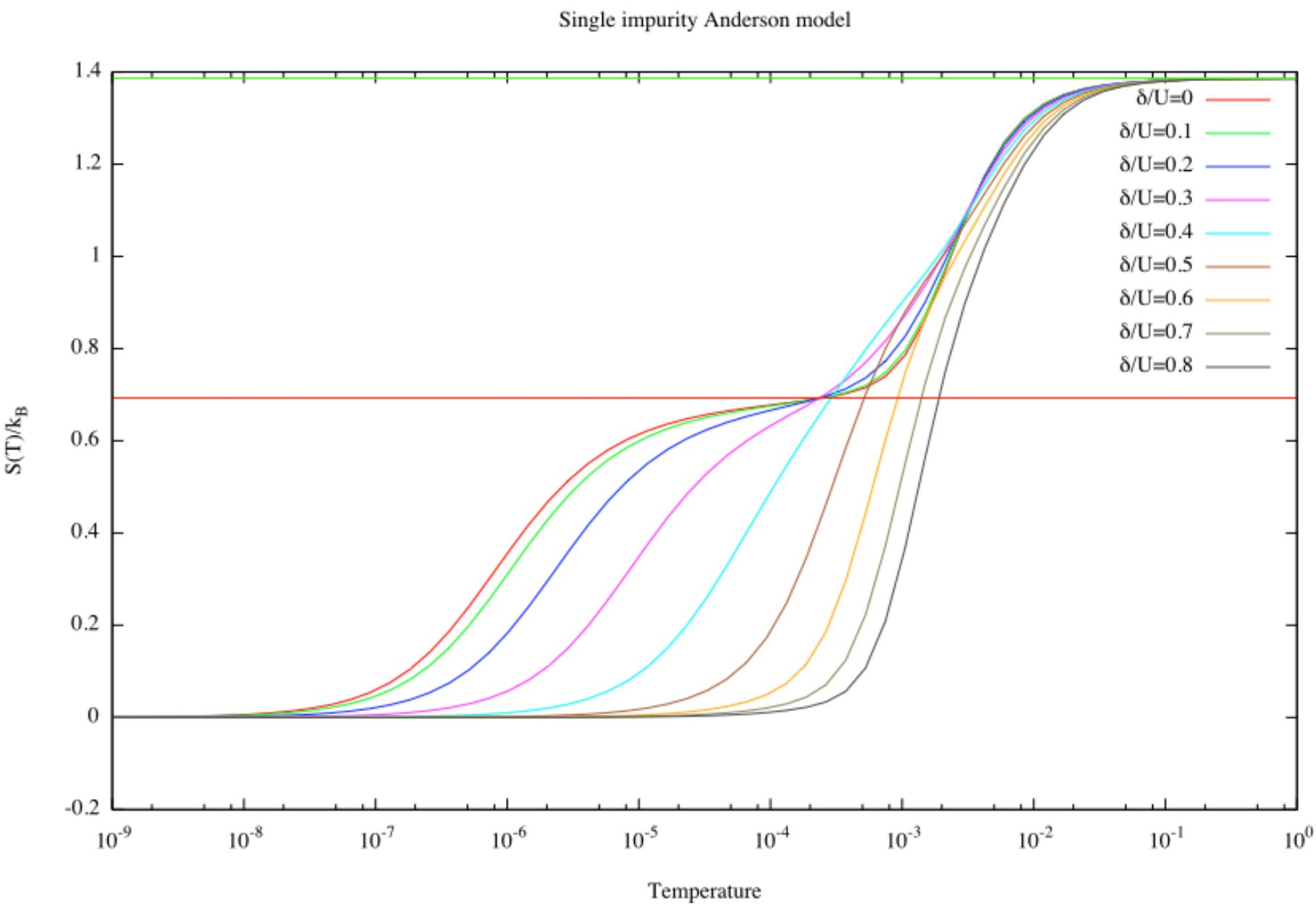
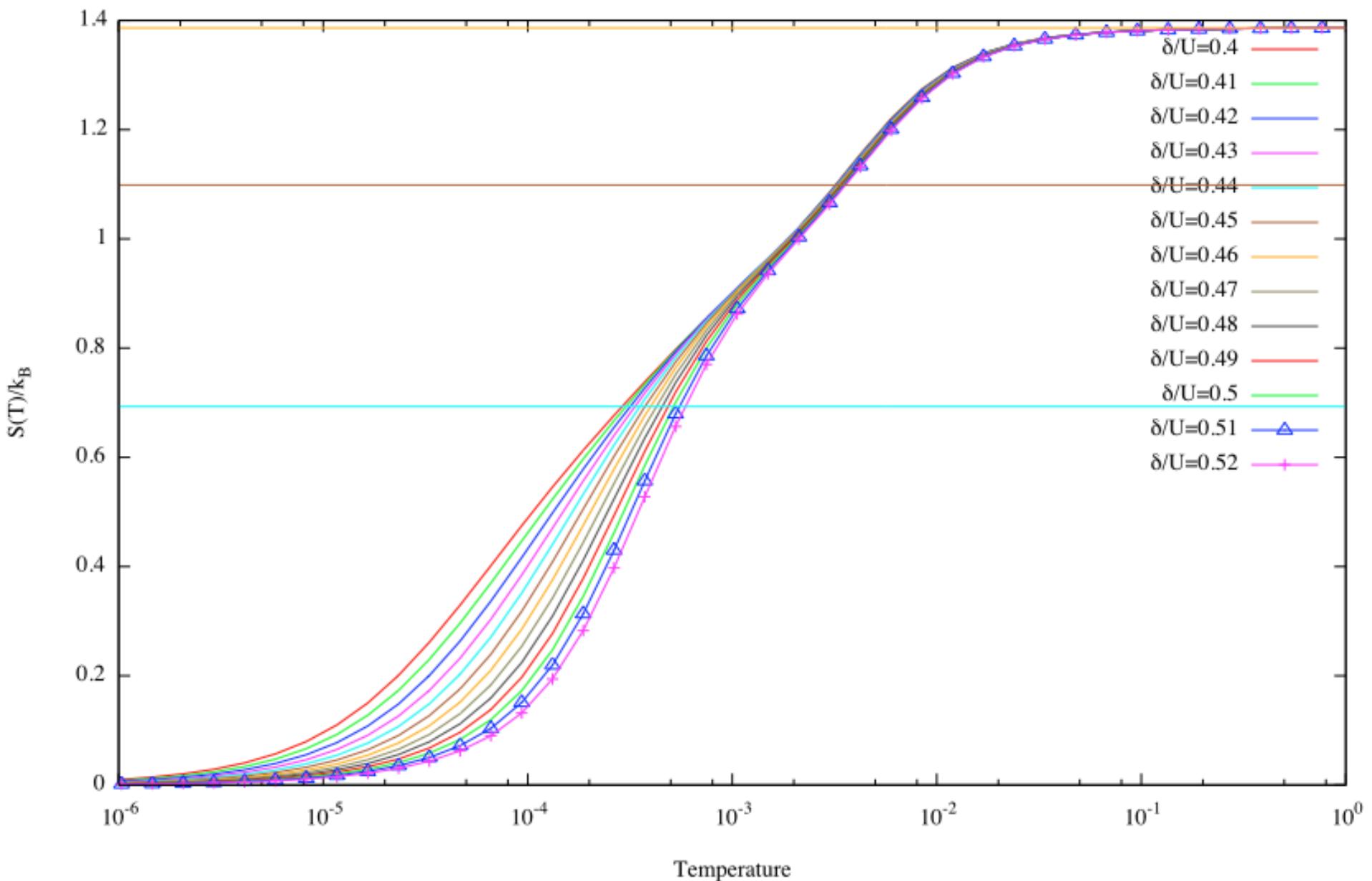


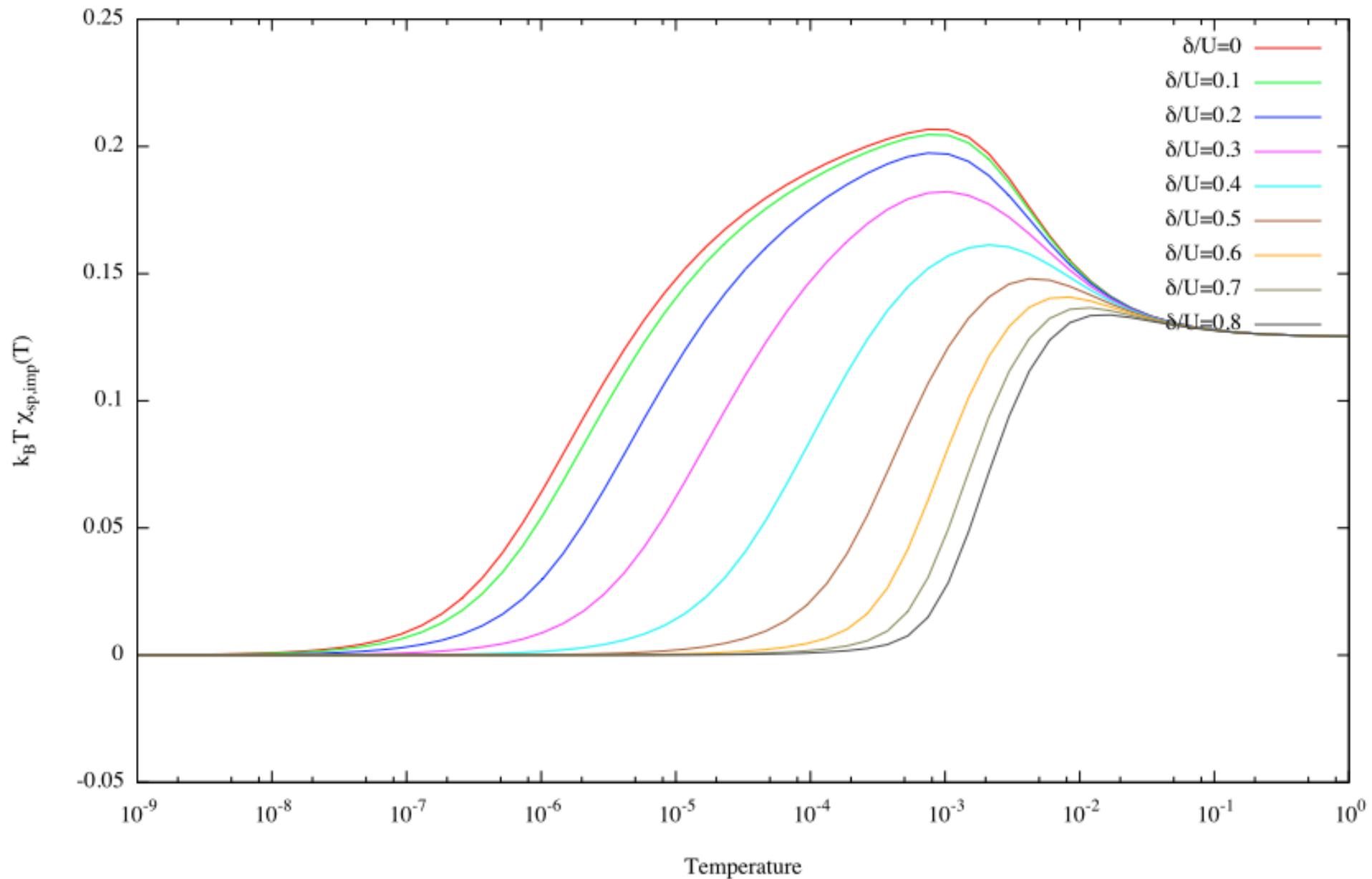
Try increasing the parameter $\delta=\varepsilon+U/2$. What happens when $\delta>U/2$?



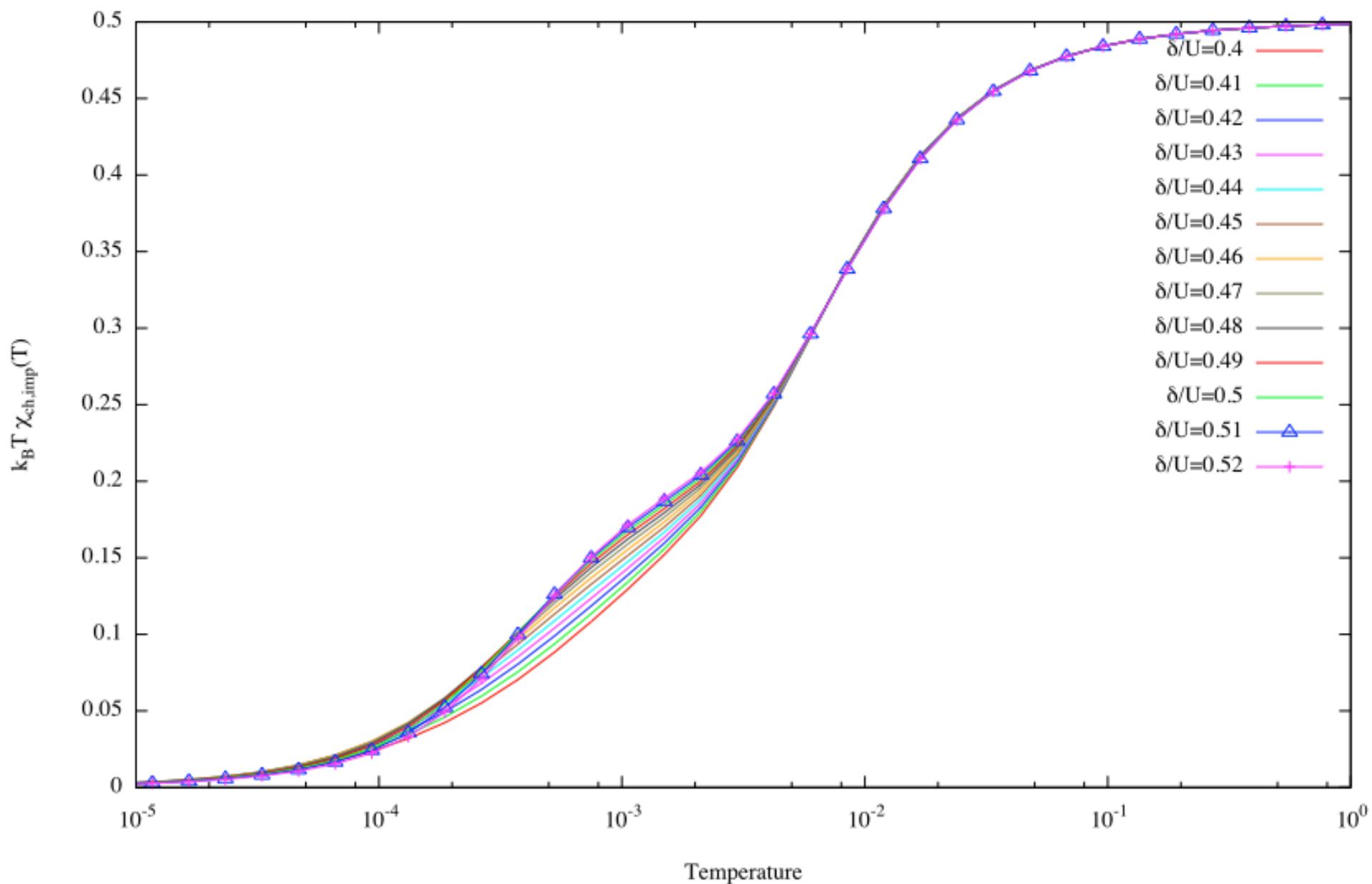
Single impurity Anderson model



Single impurity Anderson model

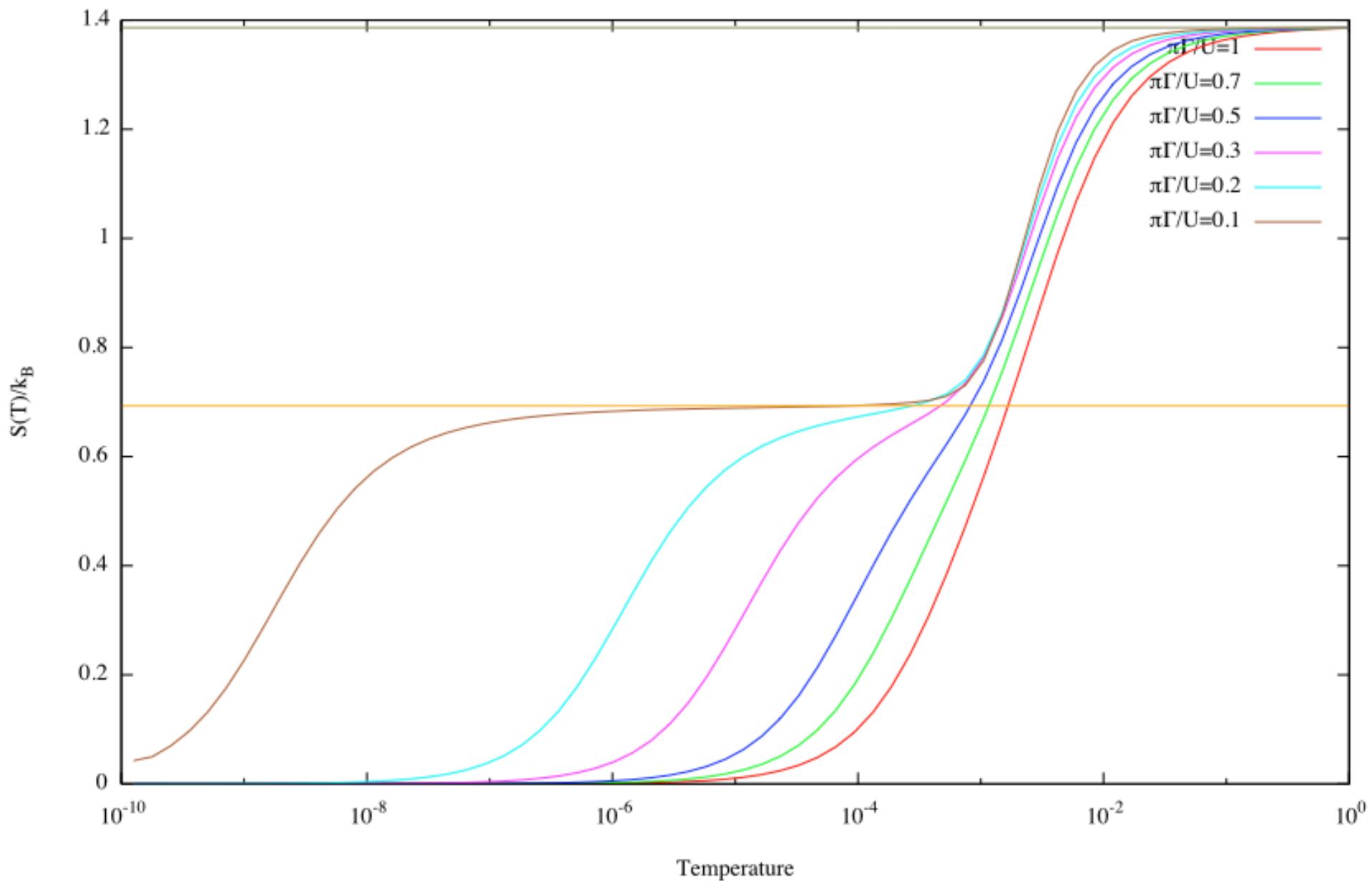


Single impurity Anderson model

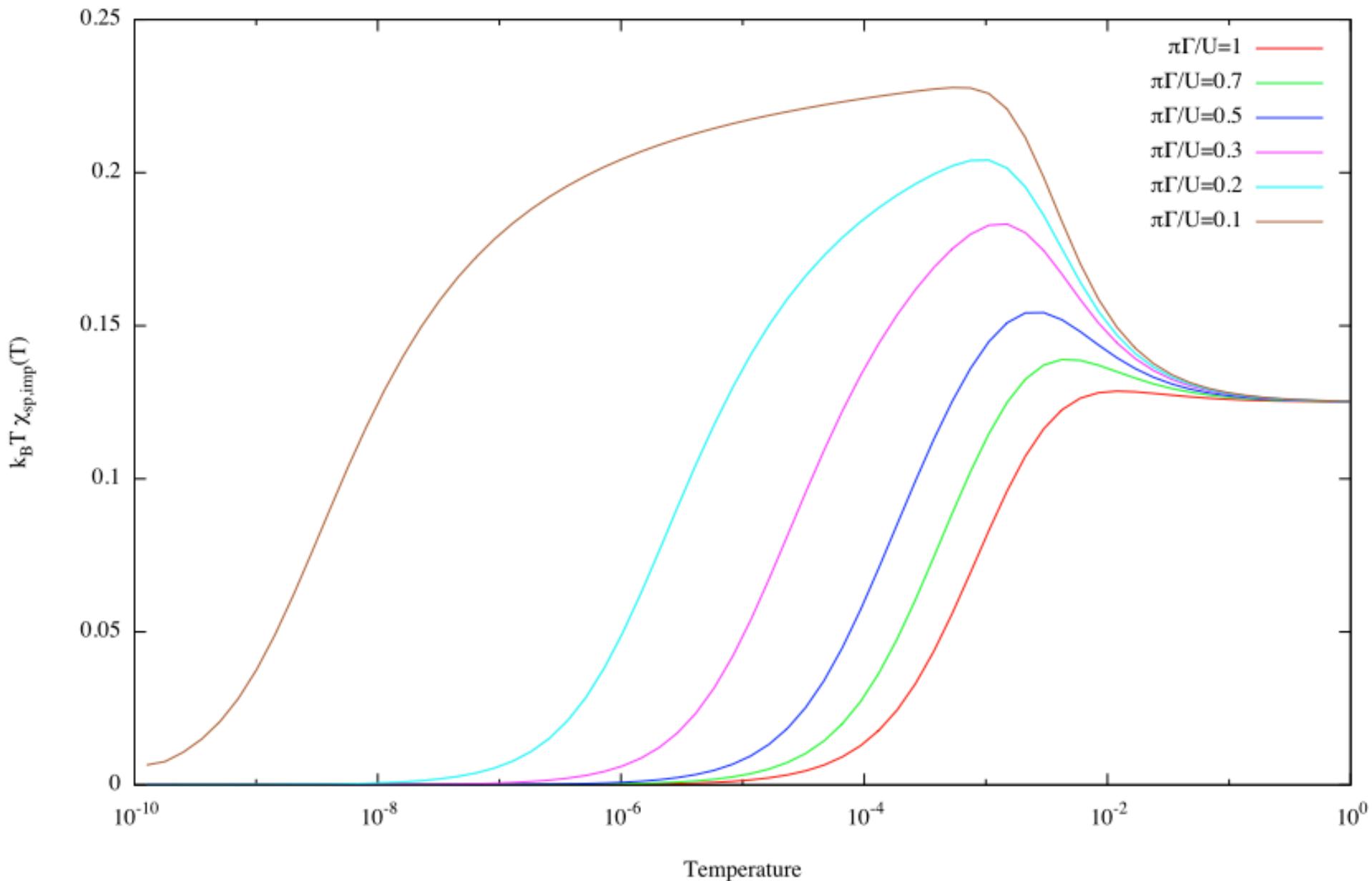


Try increasing the parameter Γ . What happens when $\Gamma > U/\pi$?

Single impurity Anderson model

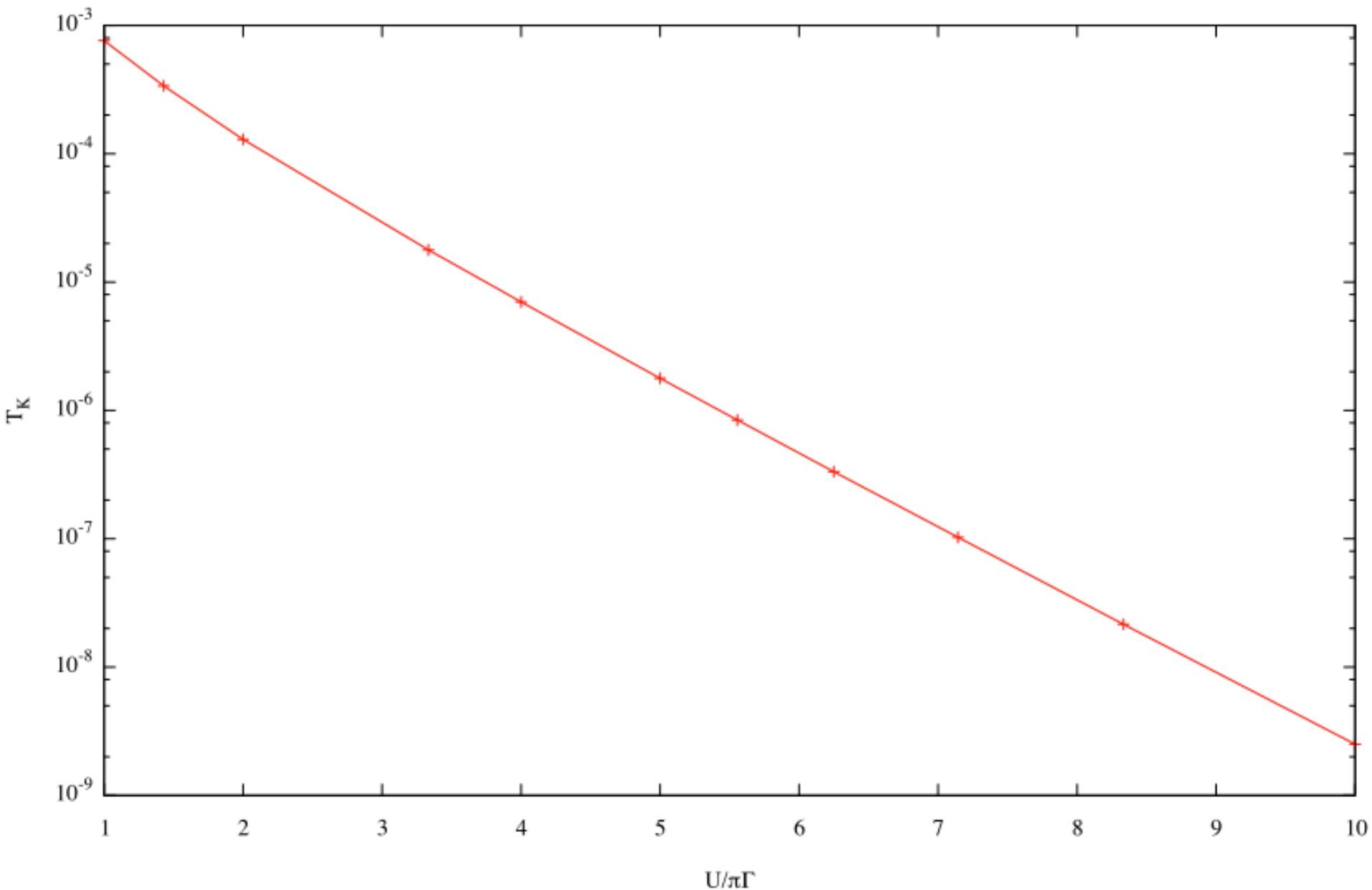


Single impurity Anderson model



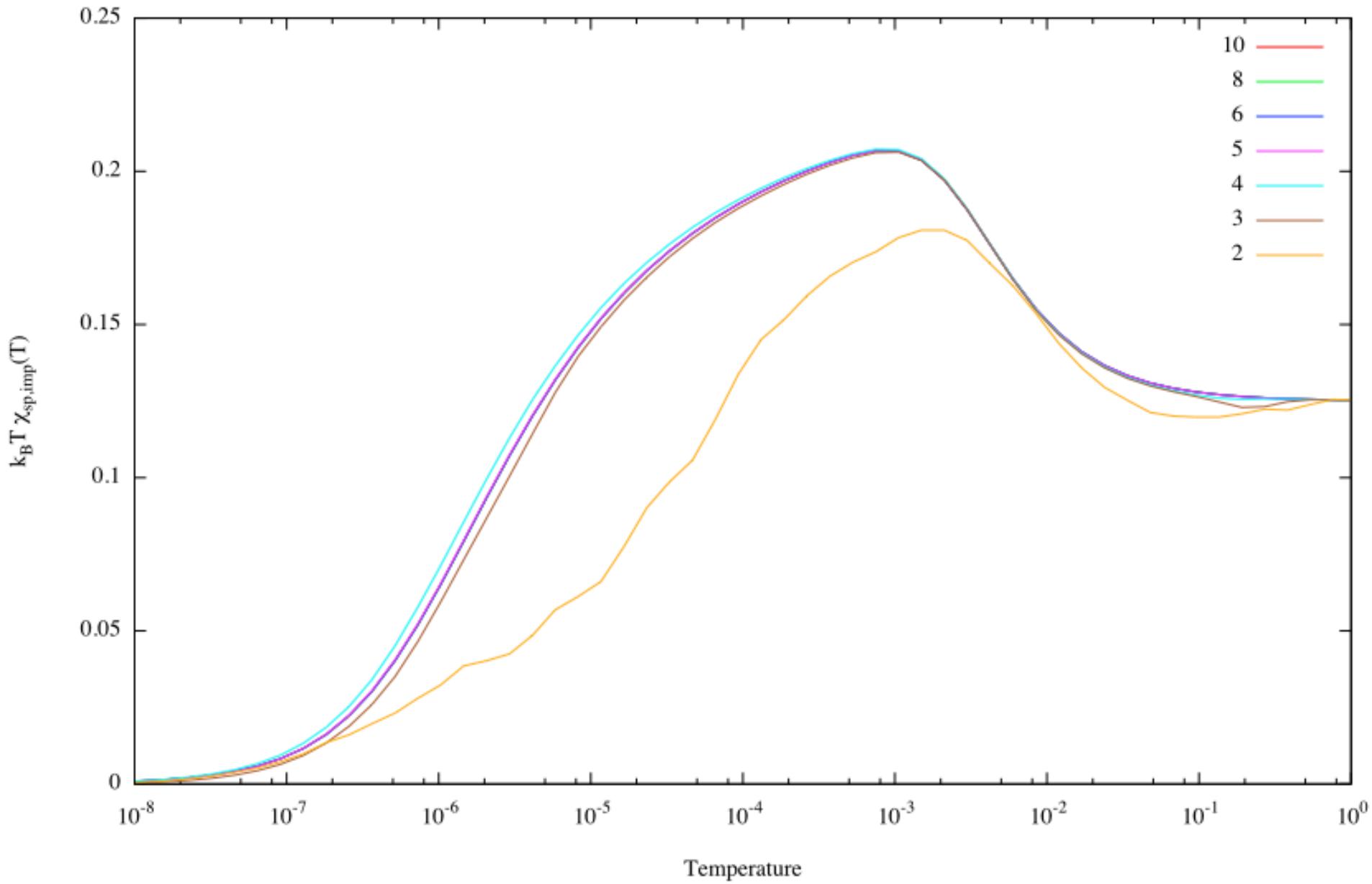
Verify the formula for T_K , by performing the calculation for a range of Γ and plotting $\ln T_K$ vs. Γ .

Single impurity Anderson model - T_K



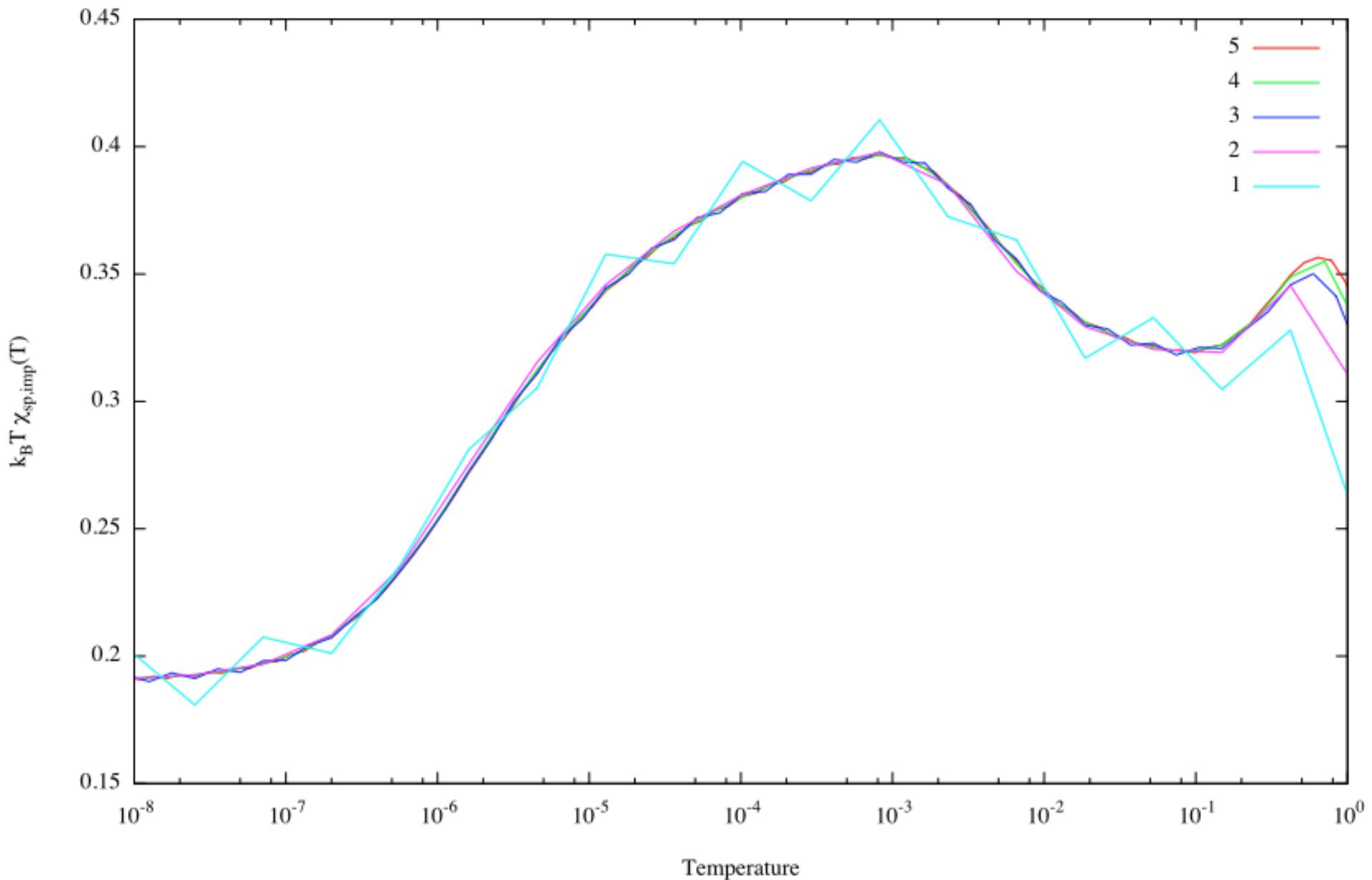
Decrease systematically keep energy from 10 to small values. How does the quality of the results deteriorate?

Single impurity Anderson model

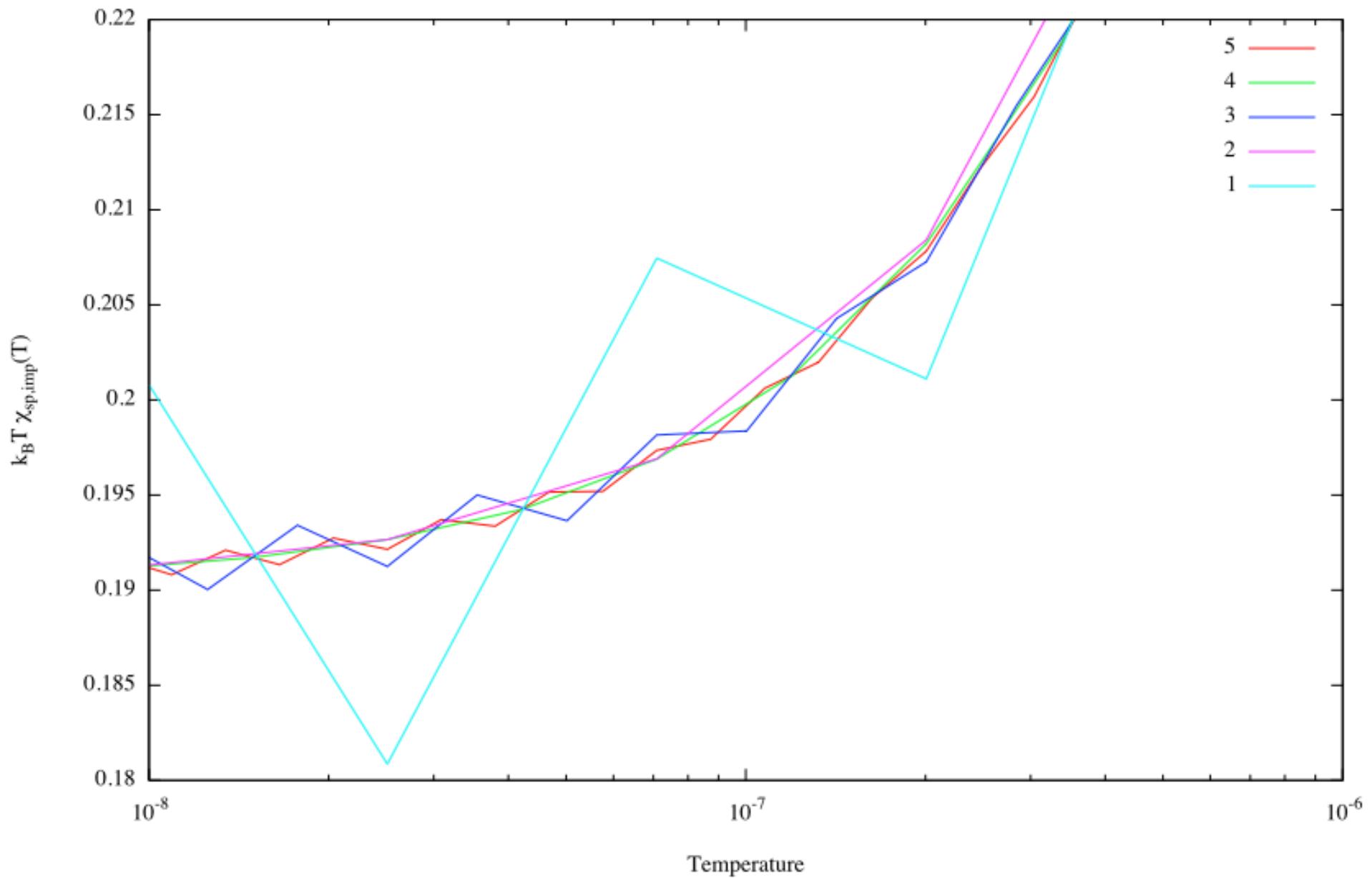


Increase Λ (to 4, then to 8). Try to do the z-averaging with a different number of z values.

Single impurity Anderson model



Single impurity Anderson model



Change the symmetry type from QS to QSZ. How much slower is the calculation?

ISO

All: 10 s

QS

All: 58 s

QSZ

All: 394 s

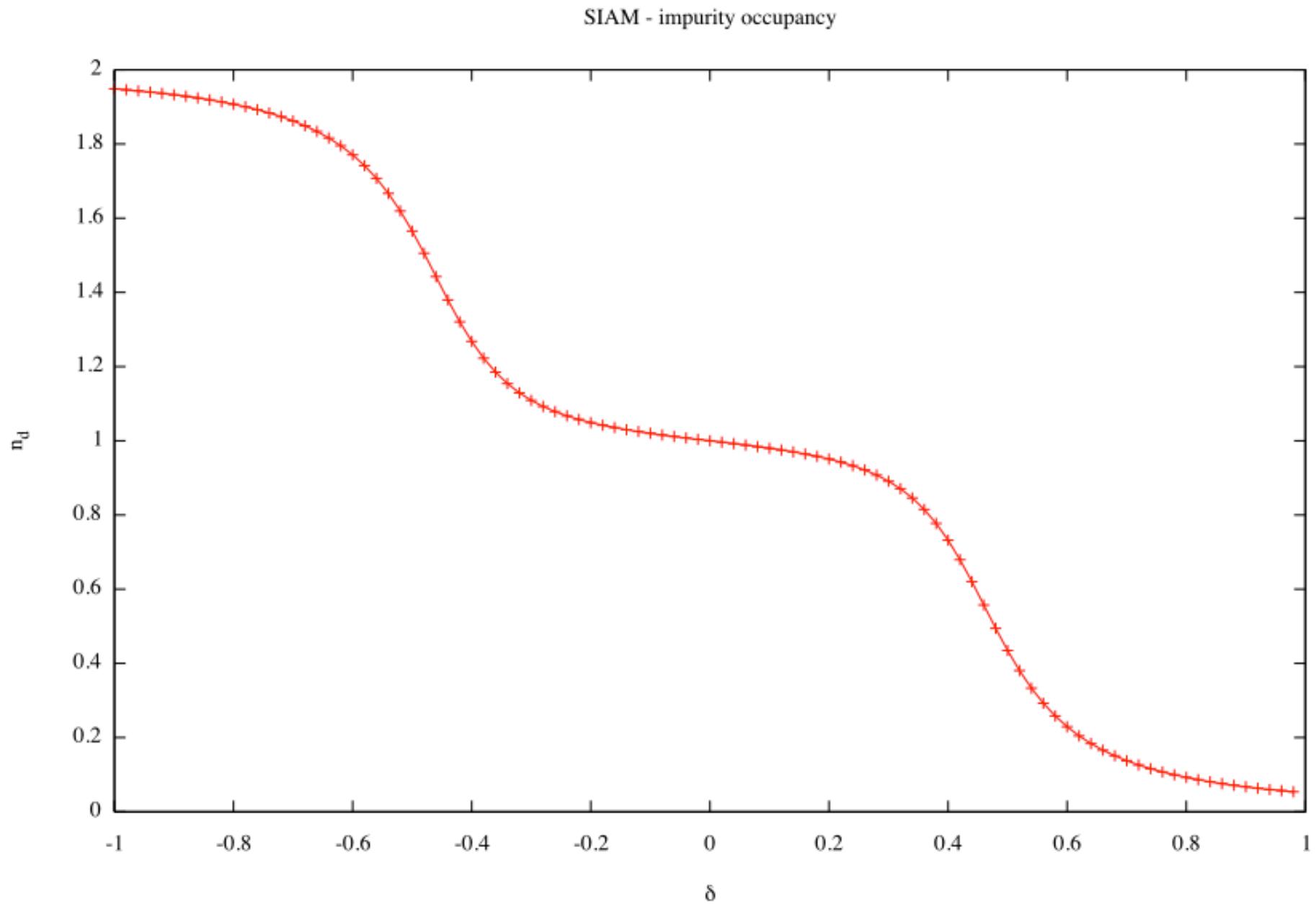
SPSU2

All: 490 s

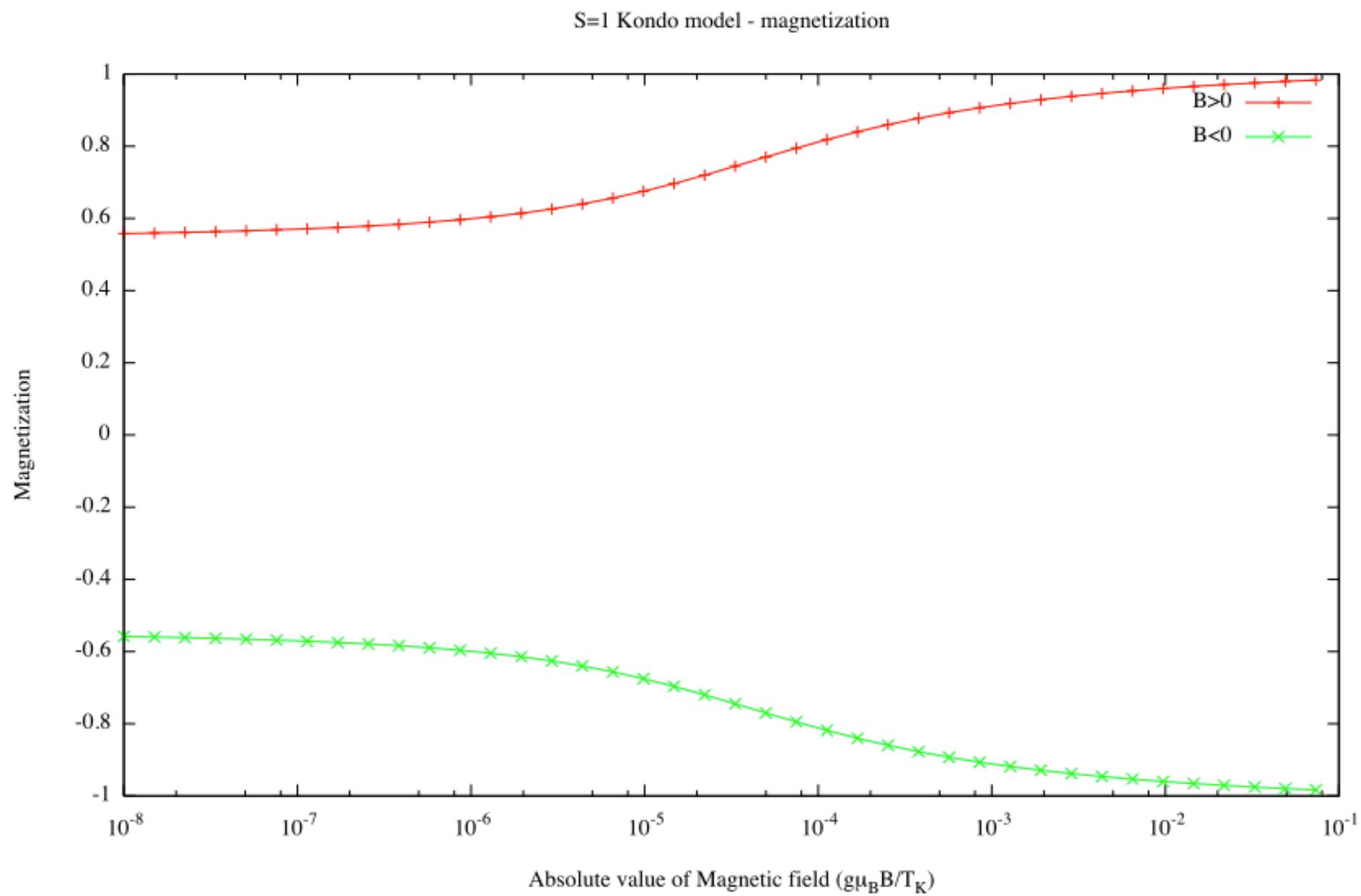
SPU1

All: 3452 s

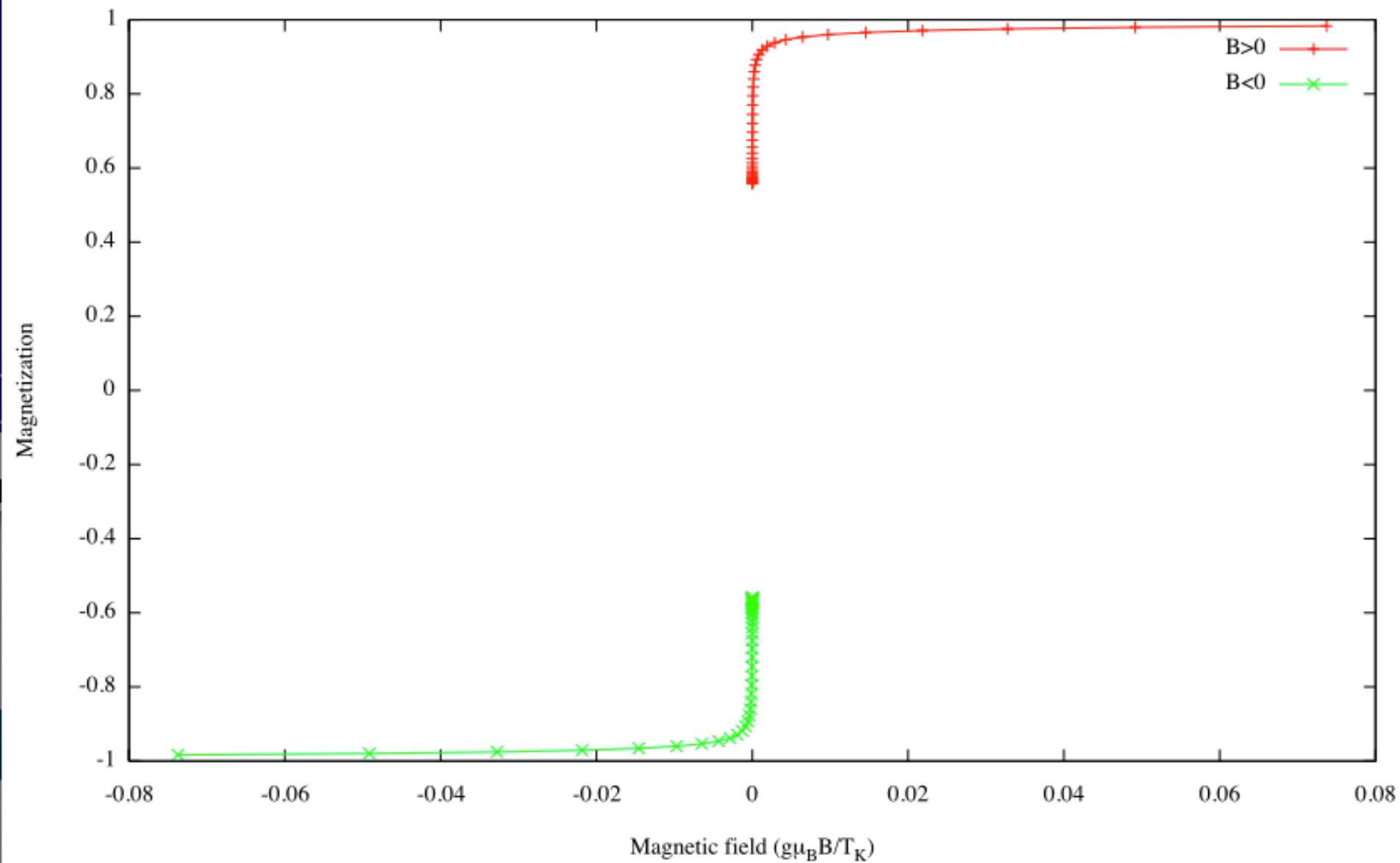
For SIAM, plot n_d for a sweep of the parameter δ . Notice how the occupancy is pinned to 1 in a wide interval of δ .



For Kondo model, calculate the spin polarization S_Z for a $S=1$ Kondo model for a range of magnetic field B going from negative to positive values.

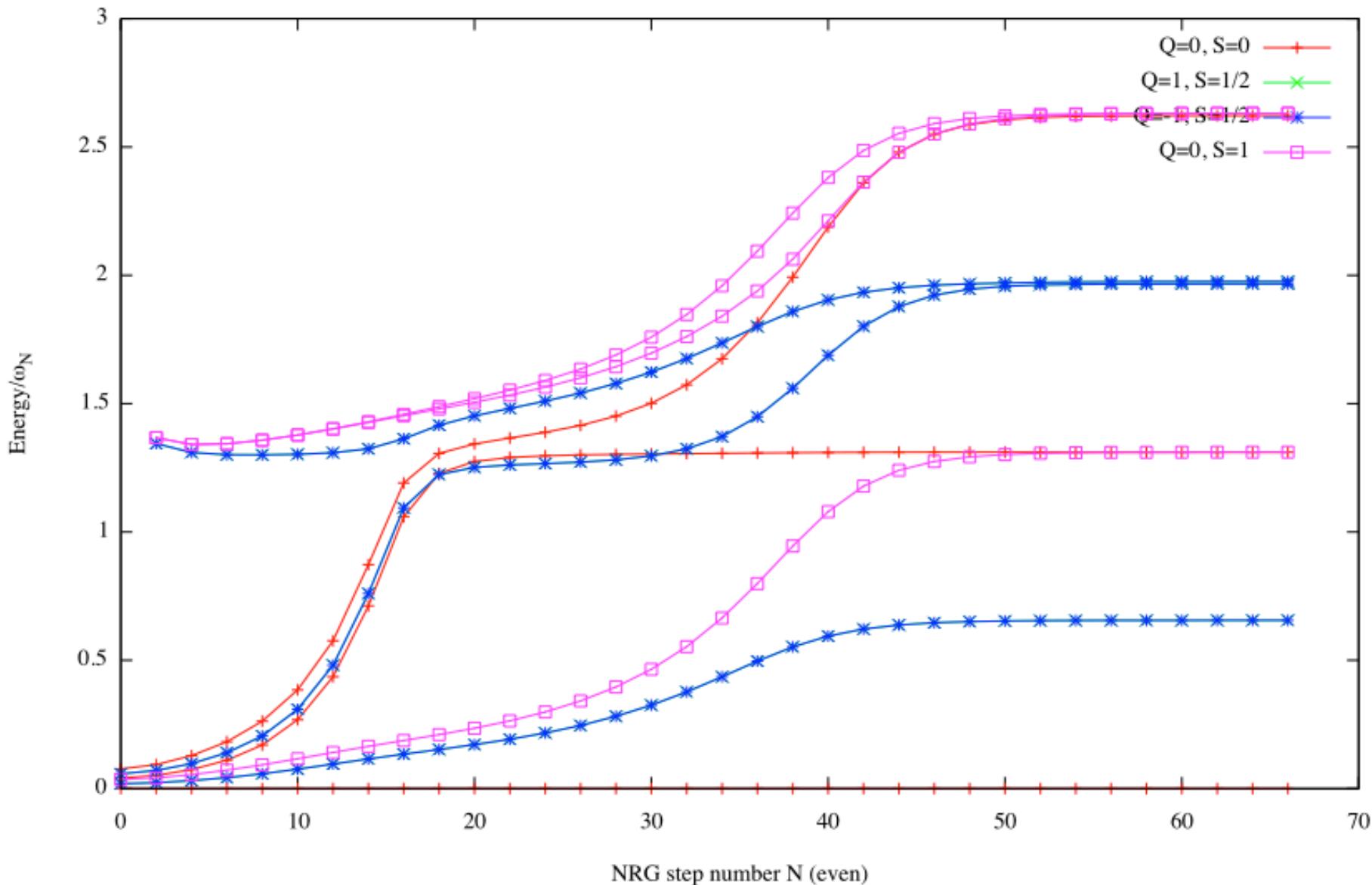


S=1 Kondo model - magnetization

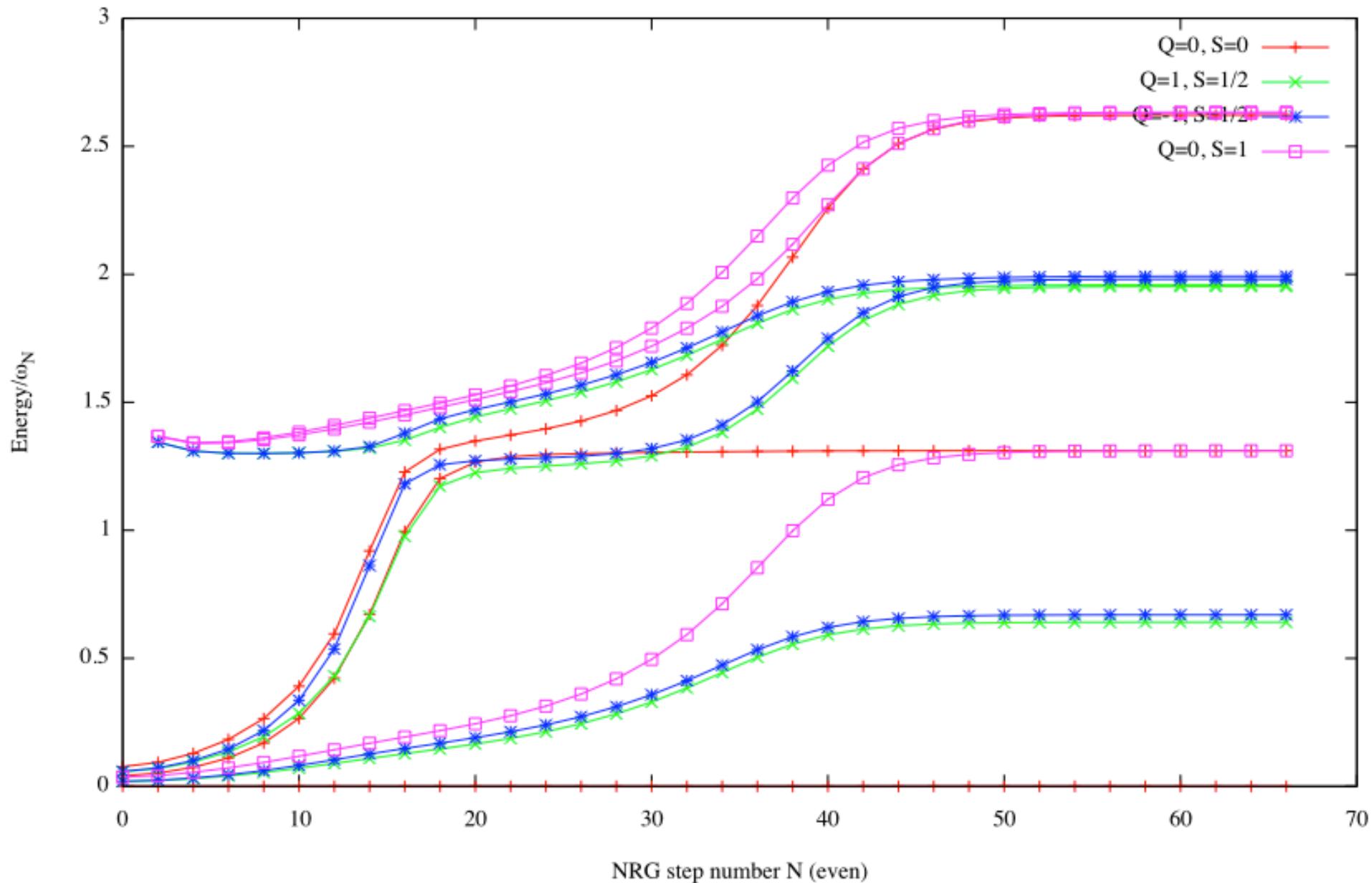


Increase δ to large values. How is the low-energy fixed point affected? Compare the flow diagrams for even and odd chain lengths.

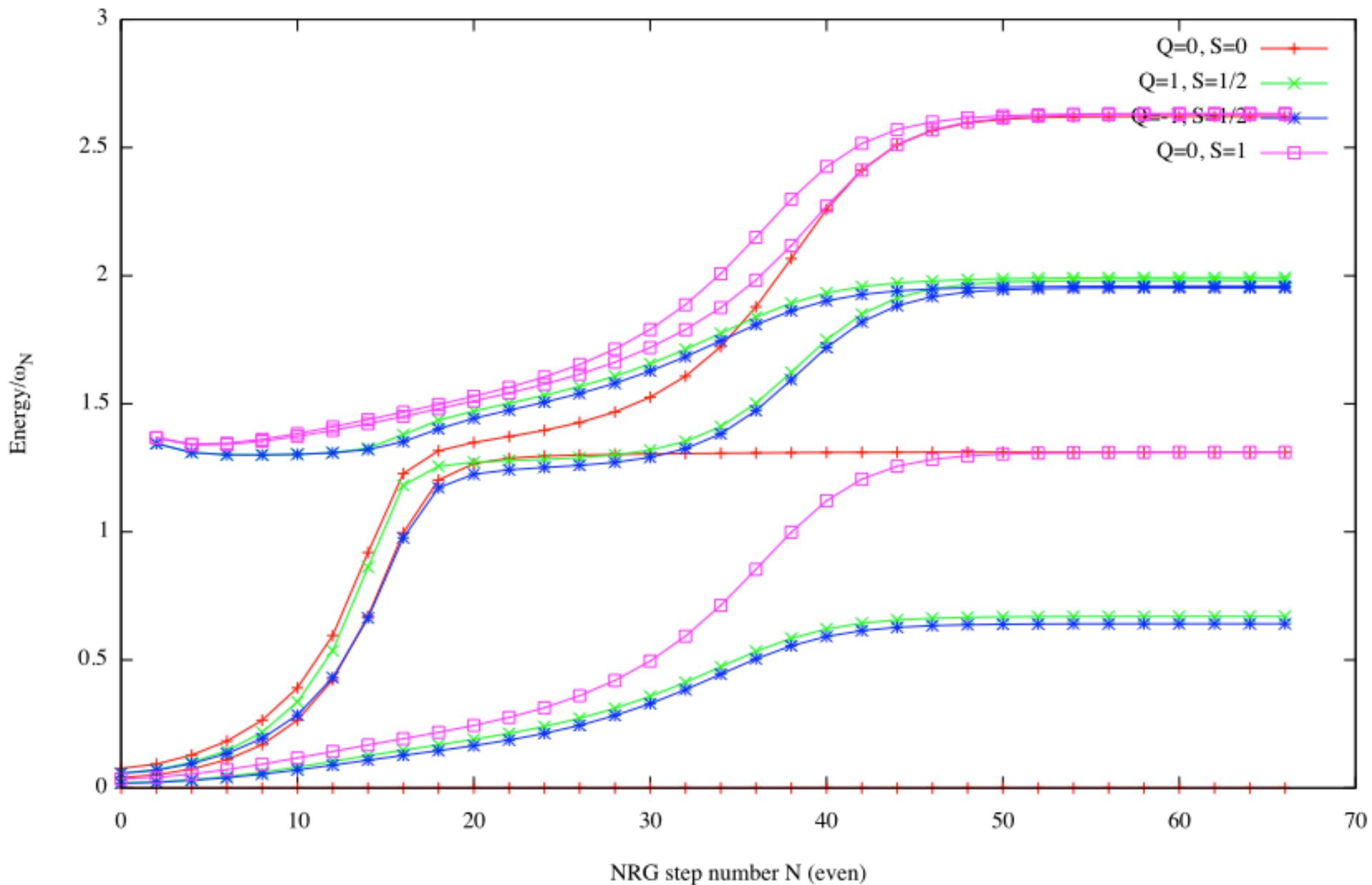
Single impurity Anderson model - renormalization flow diagram



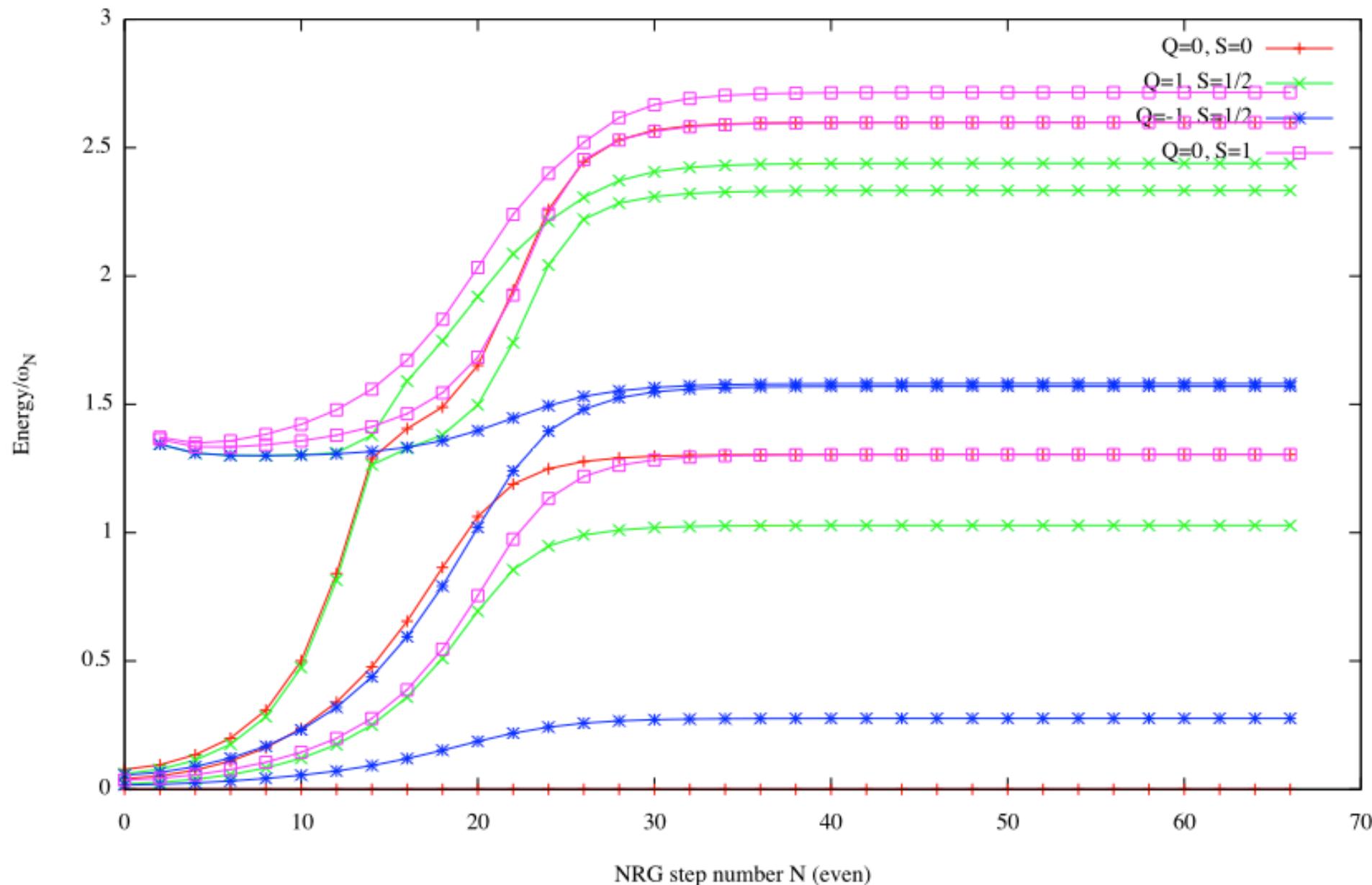
Single impurity Anderson model - renormalization flow diagram



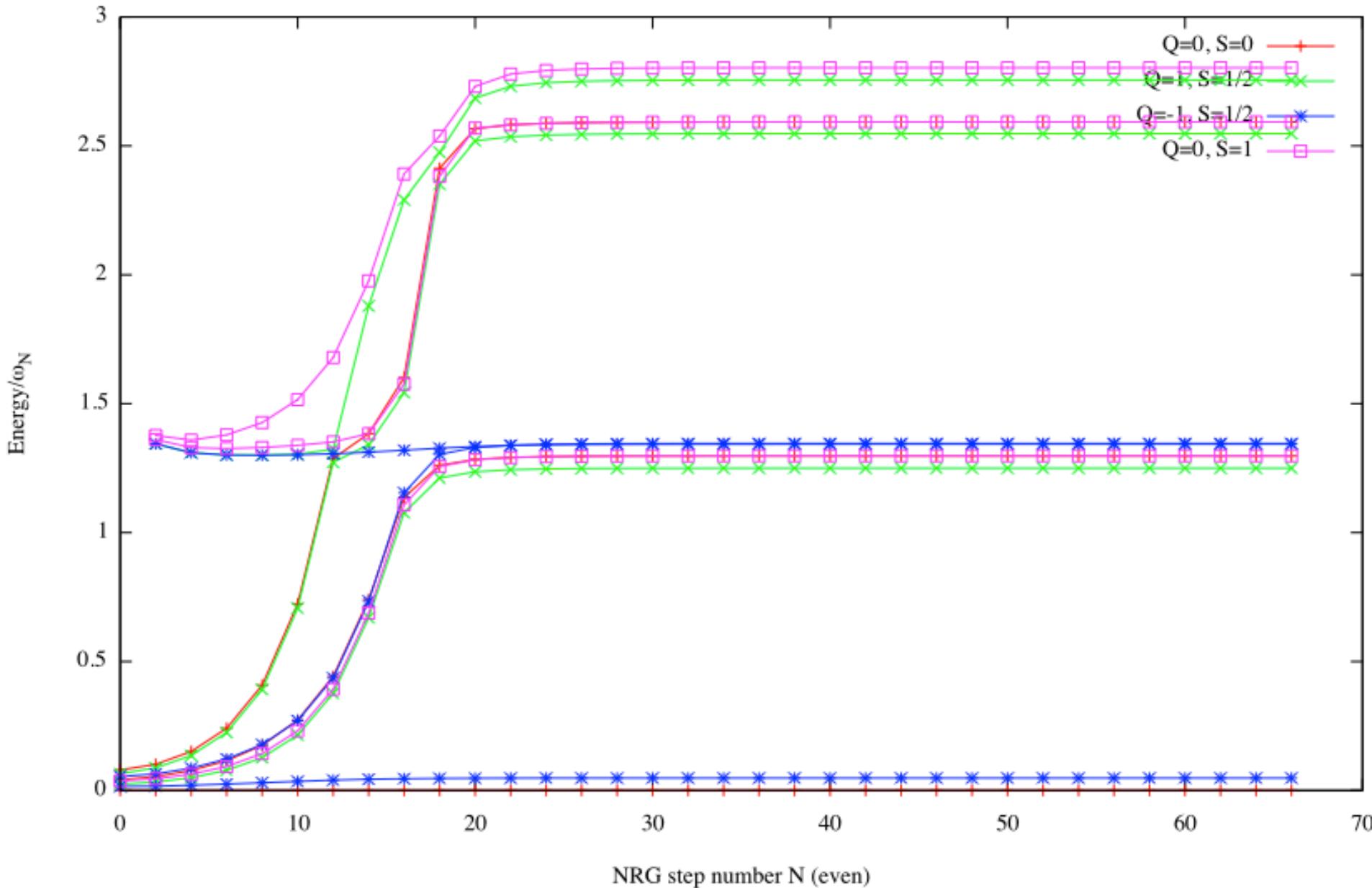
Single impurity Anderson model - renormalization flow diagram



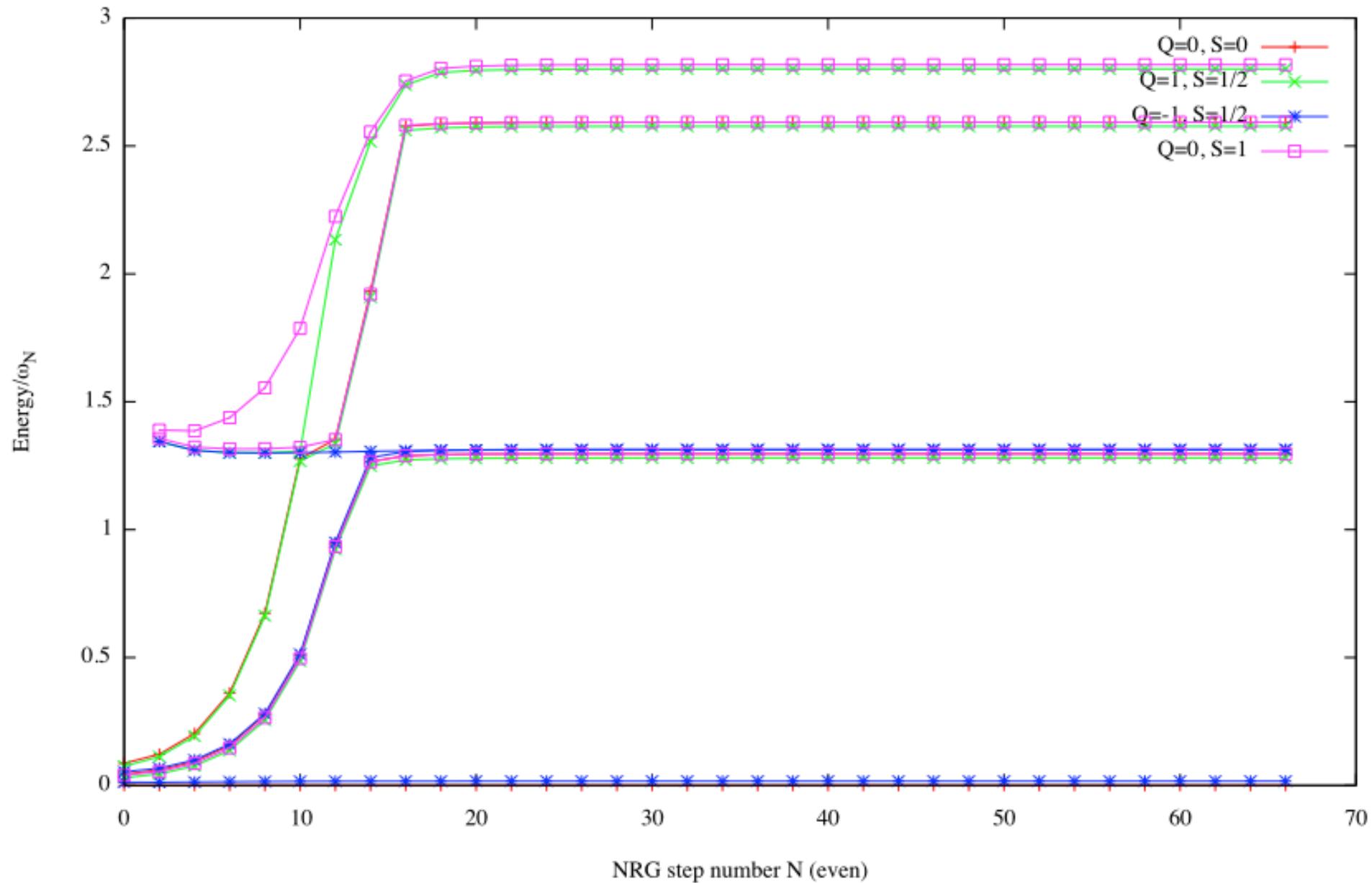
Single impurity Anderson model - renormalization flow diagram



Single impurity Anderson model - renormalization flow diagram

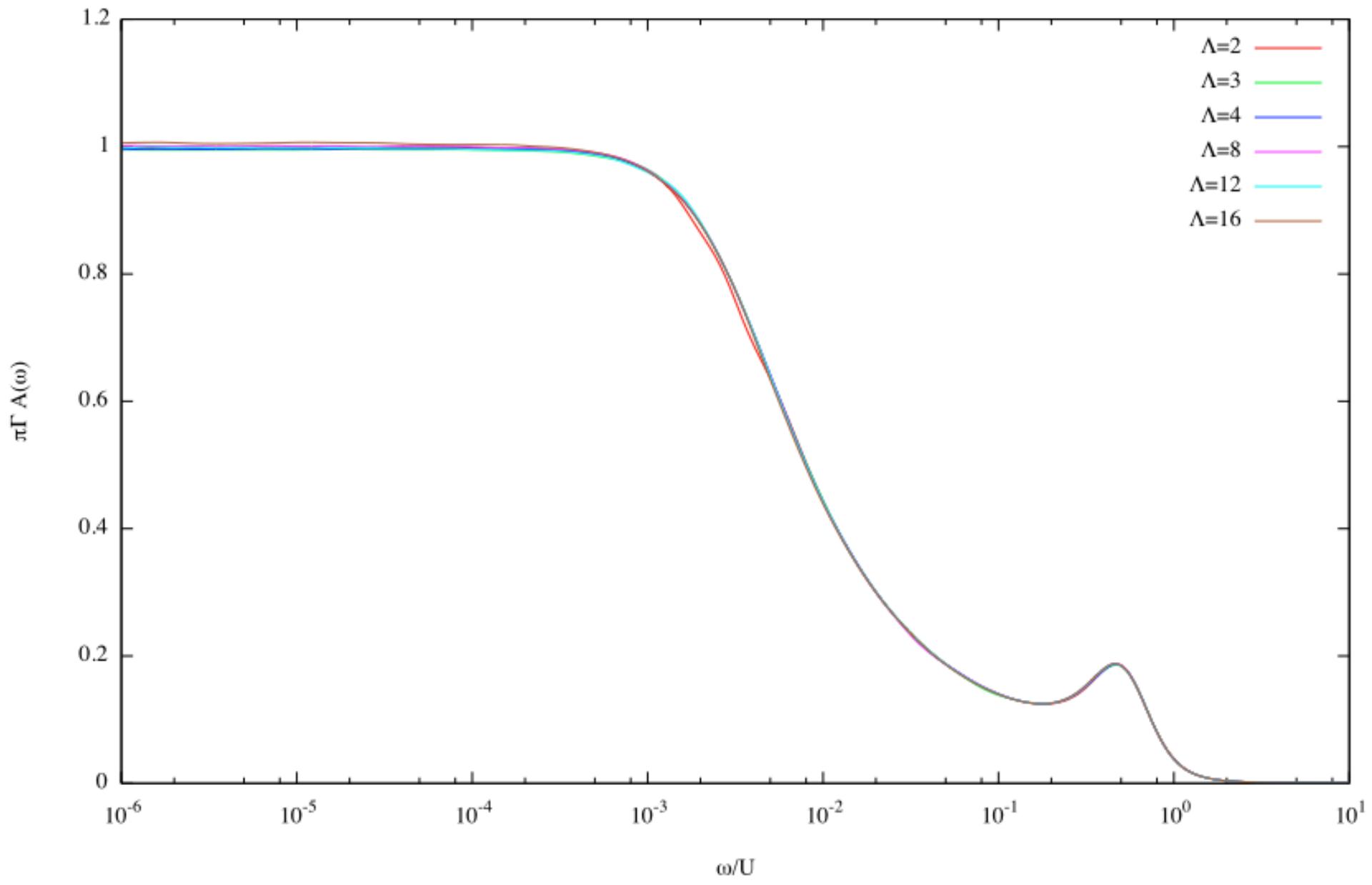


Single impurity Anderson model - renormalization flow diagram

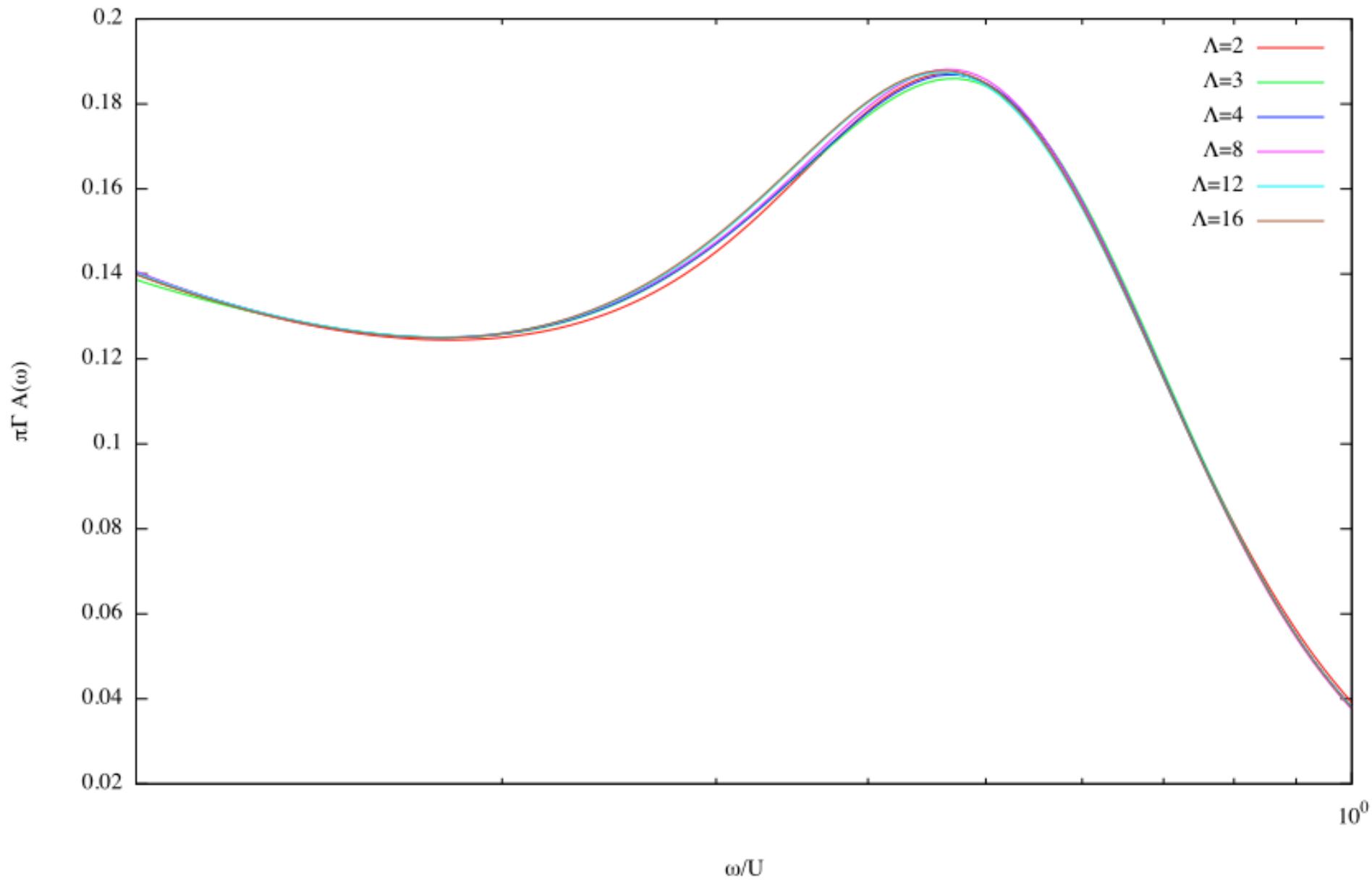


Try increasing Λ . How do the results deteriorate?

Single impurity Anderson model - spectral function



Single impurity Anderson model - spectral function



Single impurity Anderson model - spectral function

