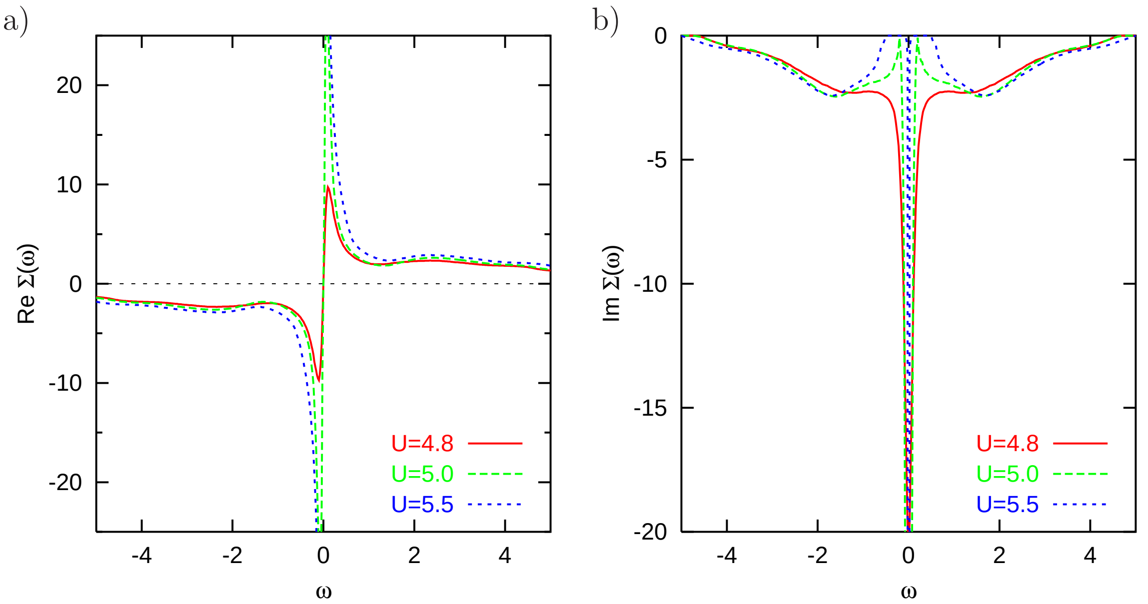

Figure 4.31: QMC results for $T = 0.05$: Self-energy in the insulating phase near the MIT. **a)** With increasing U, the real part of $\Sigma(\omega)$ approaches $1/\omega$ for not too small $|\omega|$. **b)** The imaginary part shows a sharp central peak already for $U = 4.8$ which evolves into a numerically almost singular delta function form inside a gap for $U = 5.5$.

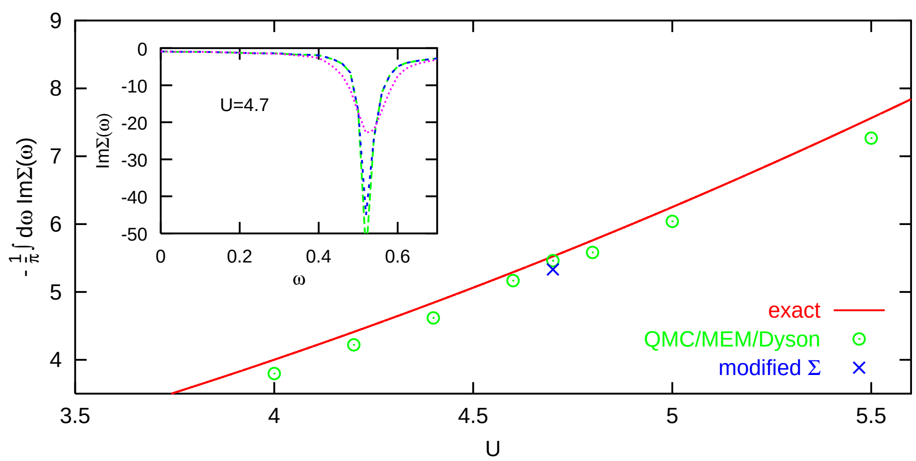

Figure 4.32: QMC results for $T = 0.05$: The numerical results (circles) fulfill the sum rule $-\frac{1}{\pi}\int_{-\infty}^{\infty} d\omega \,\mathrm{Im}\,\Sigma(\omega) = U^2/4$ for the self-energy within about 2%. The remaining discrepancy can be traced to using the finite discretization $\Delta\tau = 0.1$ in QMC which makes the solutions slightly more metallic. The inset gives a magnified view on $\mathrm{Im}\,\Sigma(\omega)$ for $U = 4.7$: original curve (long dashes) and modifications (short-dashed and dotted lines; see text) which reduce the frequency sum (cross in main panel).