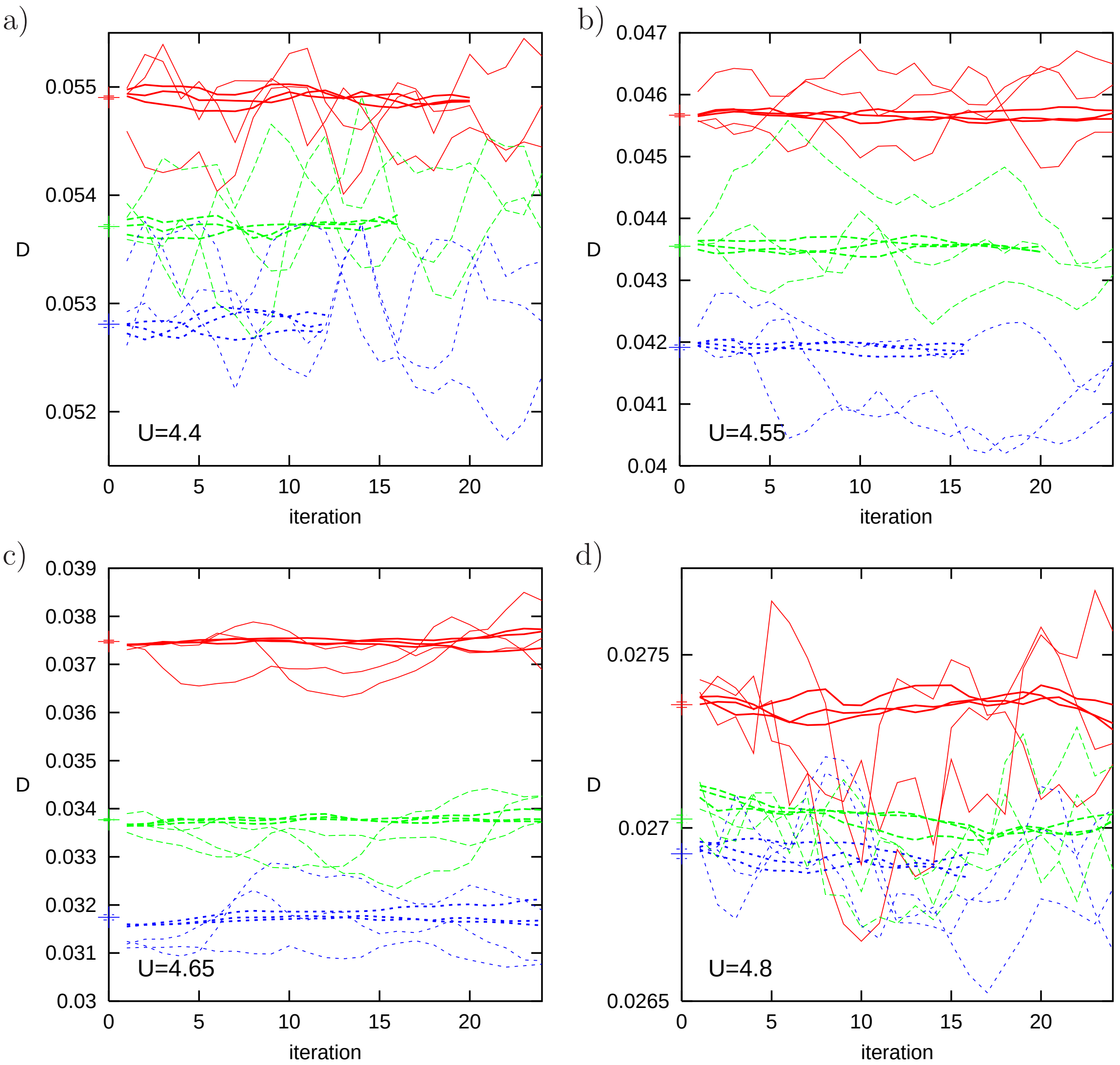

Figure 3.66: Fluctuations in the double occupancy for $T = 0.067$ and **a)** U=4.4, **b)** U=4.55, **c)** U=4.65, and **d)** U=4.8 using a discretization of $\Delta\tau = 0.25$ (solid lines), $\Delta\tau = 0.2$ (long-dashed lines), and $\Delta\tau = 0.15$ (short-dashed lines). Thin lines correspond to runs with 10^5 sweeps per iteration, thick lines to runs with $4 \cdot 10^6$ sweeps. Crosses at the left axis represent final estimates for D at finite $\Delta\tau$.

between the runs support the high accuracy of our final estimates.[57] The good convergence of the final solutions (i.e., an average of the converged parts of the high-accuracy runs) is further supported independently by the regular dependence of E on U (for each value of $\Delta\tau$) already seen in Fig. 3.23.

At lower temperatures, the fluctuations decay fast enough that runs with an order of 10^5 sweeps suffice for reliable results. We conclude that critical slowing down poses a challenge which can be overcome by the techniques described here and by investing

[57]Note the vastly different scales for D in the different parts of Fig. 3.66.