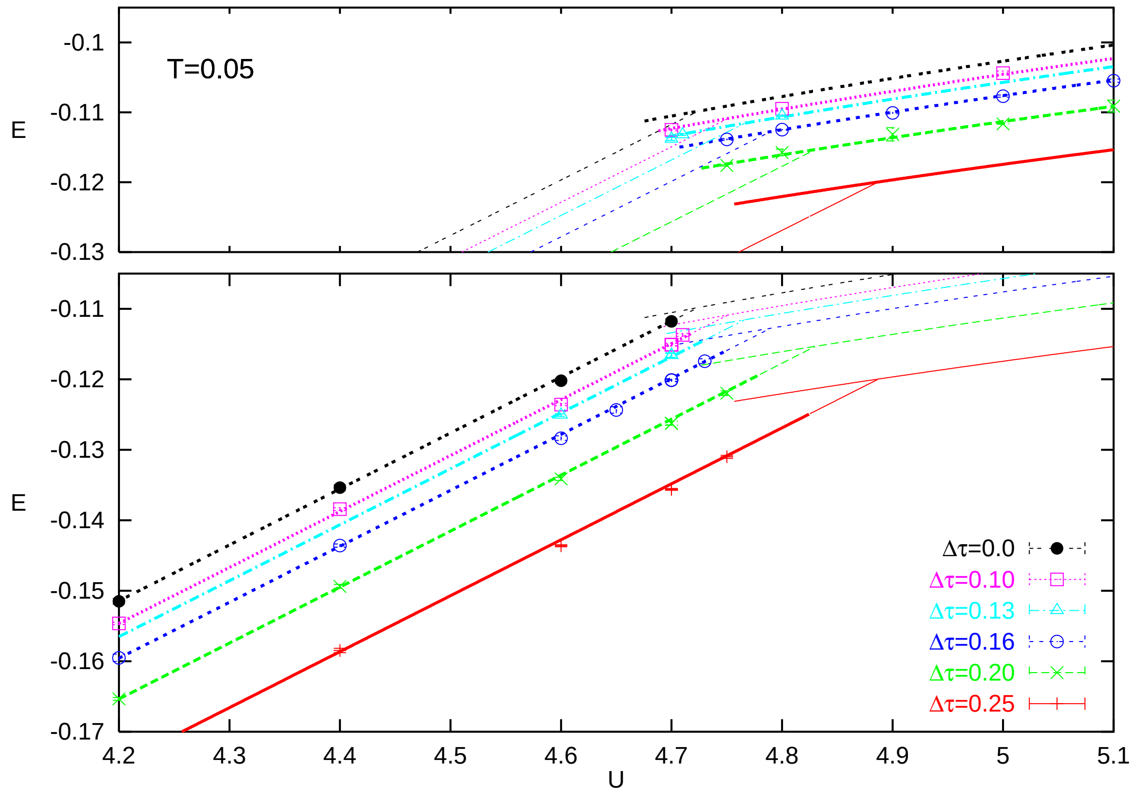

Figure 3.24: Total energy for $T = 1/20$: in order to avoid confusion within the coexistence region, QMC data for the metallic phase is presented in the lower plot and the data for the insulator in the upper plot (with identical scales). As in the previous plots, the fit functions for the insulating phase (thick lines in upper plot) have the universal form given by (3.18) and (3.17); their extent reflects our estimate of its stability region. In the lower plot, the linear fits for the metal are drawn as thick lines below U_{c2}, where the metallic phase is stable, but extended as thin lines up to U_{c2b}, where they cross the corresponding fit for the insulator.

In contrast, a small coexistence region of metallic and insulating solution appears for $T = 0.05$ as shown in Fig. 3.24. Here, we have split the presentation of the QMC data for the metallic phase (lower part) and insulating phase (upper part). The fit curves are repeated in both parts with emphasis (thick lines) on the phase under consideration. While the extent of the fit curves for the insulator reflects our estimate of the extent of its stability region (which depends on $\Delta\tau$), the metallic curves are always drawn until they cross the corresponding insulating solutions. These crossing points, which can be determined with great precision, will later be used as parameters for fitting the double occupancy. The metallic curves are drawn as thick lines within (our estimate of) their stability range. Note that the QMC data generally agrees well with the fit curves; only right at the stability edges, systematic deviations towards the more stable phase are seen. While it is plausible that this effect might be partially genuine, we observed that it can be reduced by improving the accuracy of