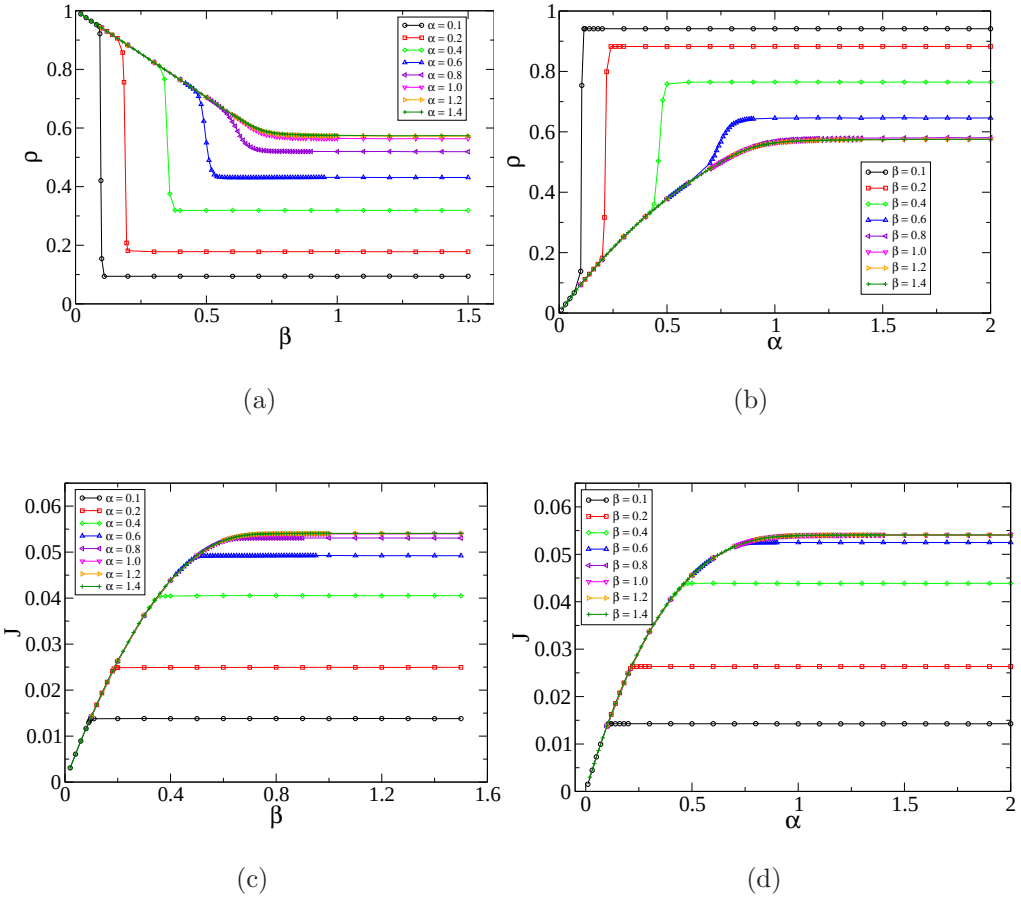

FIG. 7: Upper panels: bulk density for (a) fixed α and (b) fixed β. Lower panels: current for (c) fixed α and (d) fixed β. System size $L = 200$.

A. Phase diagram

Of principal interest in determining the phase diagram are the bulk density and the current as functions of the rates α and β. These results are summarized in Fig. 7, showing evidence of both continuous and discontinuous phase transitions, depending on the rates. We see that for low α ($\alpha < 0.8$ or so) and $\beta < \alpha$ the system is in the high-density phase, in which density and current depend only on β, whereas for $\beta > \alpha$, and $\beta < 0.6$ or so, the system is in the low-density phase in which density