Linear System

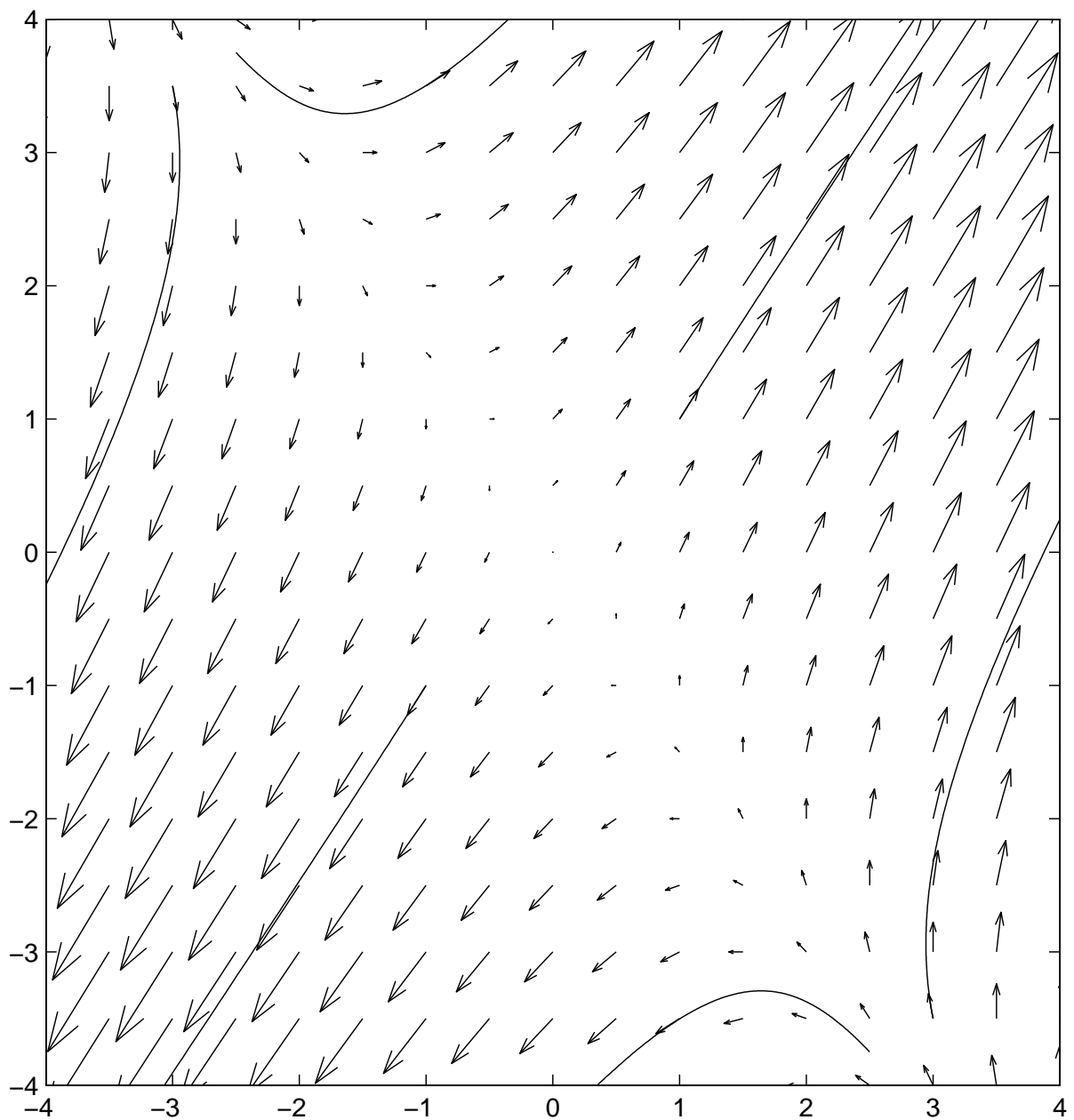$$\dot{v}_1 = .5v_1 + .5v_2$$
$$\dot{v}_2 = v_1 + .5v_2$$

Figure 1: Direction field and sample trajectories for linear system with $(a, b, c, d) = (.5, .5, 1, .5)$.