



**Fig. 12** Static target circling; Quadrotor system performance; with wind and sensor noise;  $K_P = 0.2$ ,  $K_{Pr} = 0.1$ ,  $K_D = 0.9$ ,  $K_{Dr\alpha} = 0.2$ ,  $K_{P\alpha} = 0$ ; (a) Full information control,  $K_{Dr} = 0.5$ , (b) Control 4.4, Table 4,  $K_{Dr} = 0$ .