## Both RK4 and MC simulation of SIRS model a=a(t), b=1, c=0.5, f=0.2, a=a(t), b=2, c=0.5, f=0.2, $\sigma_S = 27.07$ $\sigma_I = 23.61$ $\sigma_R = 47.68$ $\sigma_S = 57.37$ — $\sigma_I = 10.05$ — $\sigma_R = 37.61$ People in category S MC 300 -I MC R MC 200 100 -100 -NR 0 0 20 25 10 15 20 10 15 5 a=a(t), b=3, c=0.5, f=0.2, a=a(t), b=4, c=0.5, f=0.2, $\sigma_S = 91.30$ — $\sigma_I = 1.70$ — $\sigma_R = 11.47$ $\sigma_S = 94.44$ — $\sigma_I = 0.00$ — $\sigma_R = 3.30$ NR People in category 400 400 300 -300 -200 200 100 100 -0 0 25 15 20 25 5 10 15 20 10 Time, [Years] Time, [Years]