

Supplementary materials for

Caihong LI, Cong LIU, Yong SONG, Zhenying LIANG, 2023. Parameter value selection strategy for complete coverage path planning based on the Lü system to perform specific types of missions. *Front Inform Technol Electron Eng*, 24(2):231-244. <https://doi.org/10.1631/FITEE.2200211>

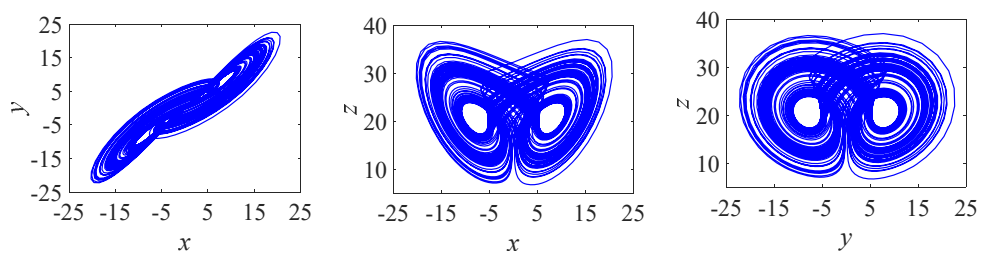


Fig. S1 Phase planes of the Lü system

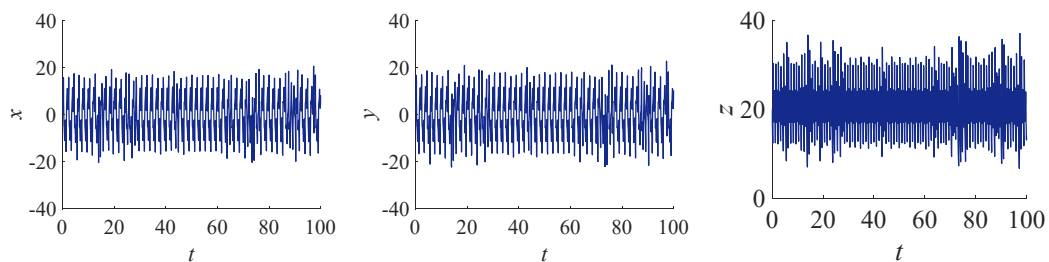


Fig. S2 Time series of the Lü system

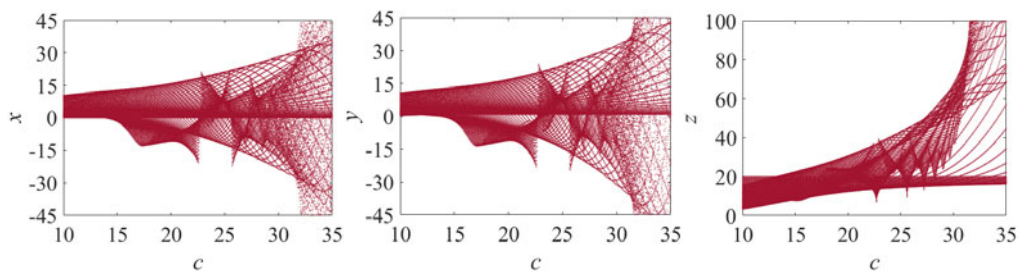


Fig. S3 Bifurcation diagram regarding the value of parameter c of the Lü system

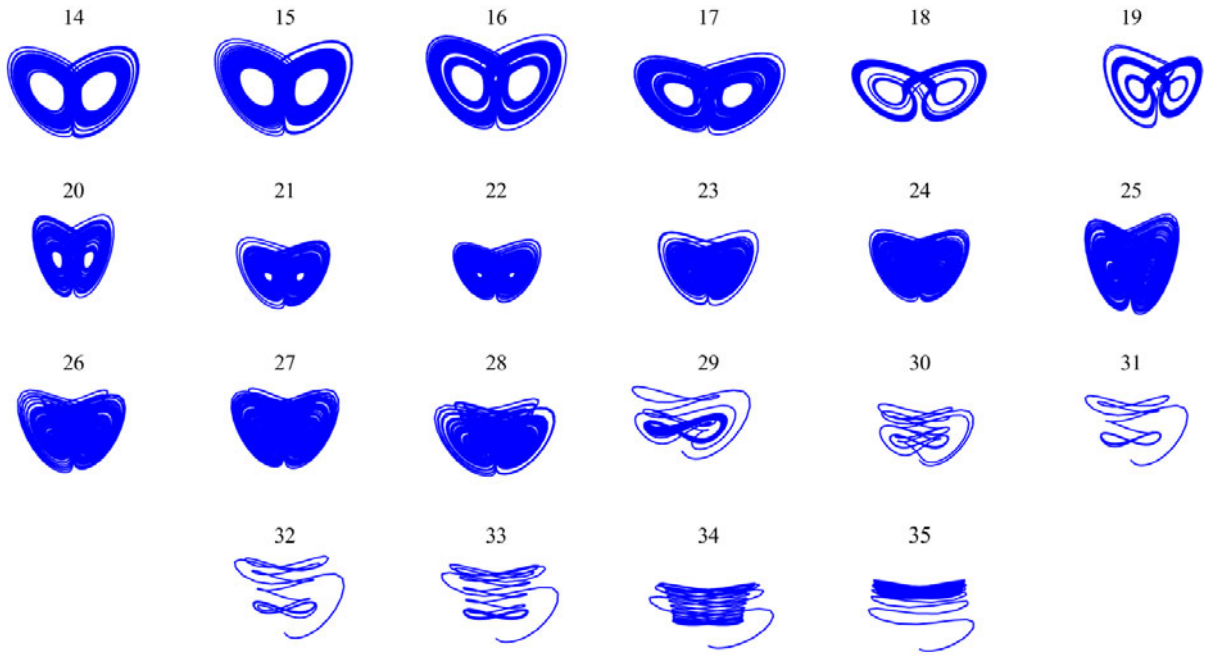


Fig. S4 The phase planes of x - z at each integer value of system c of the Lü system ($c \in [14, 35]$)

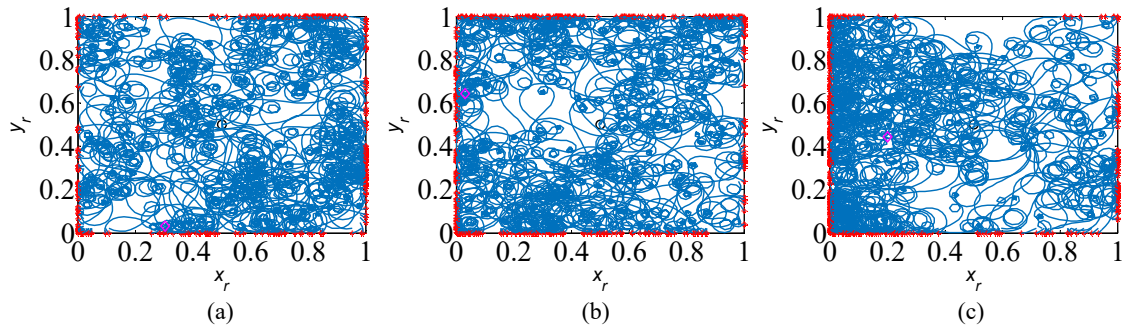


Fig. S5 The produced coverage trajectories at $c=24$ based on the Lü system, the used variable and coverage rate r_c : (a) x , $r_c = 99.75\%$; (b) y , $r_c = 99\%$; (c) z , $r_c = 98\%$

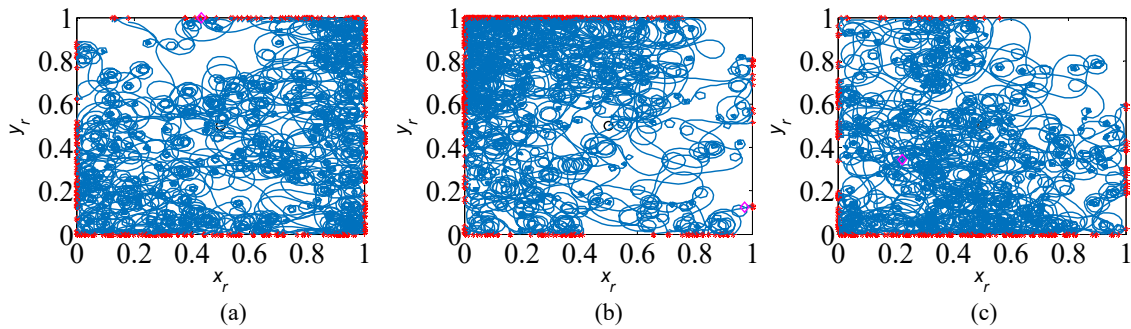


Fig. S6 The produced coverage trajectories at $c=25$ based on the Lü system, the used variable and coverage rate r_c : (a) x , $r_c = 95.75\%$; (b) y , $r_c = 93.5\%$; (c) z , $r_c = 93.5\%$

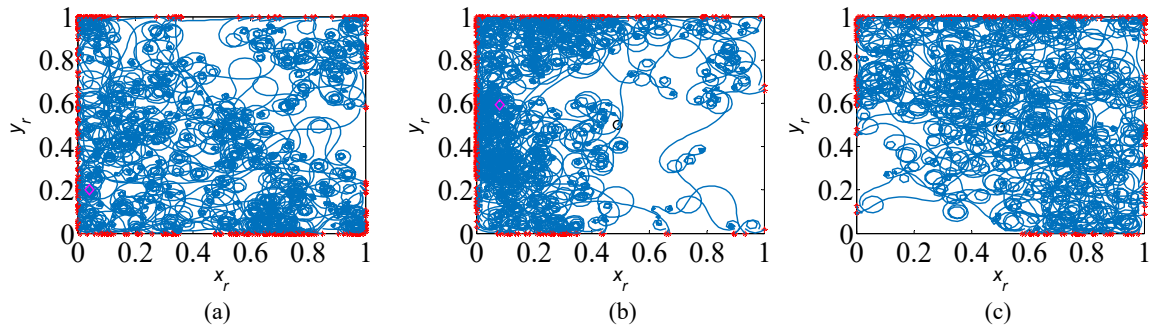


Fig. S7 The produced coverage trajectories at $c=26$ based on the Lü system, the used variable and coverage rate r_c : (a) x , $r_c = 96\%$; (b) y , $r_c = 80.5\%$; (c) z , $r_c = 94.5\%$

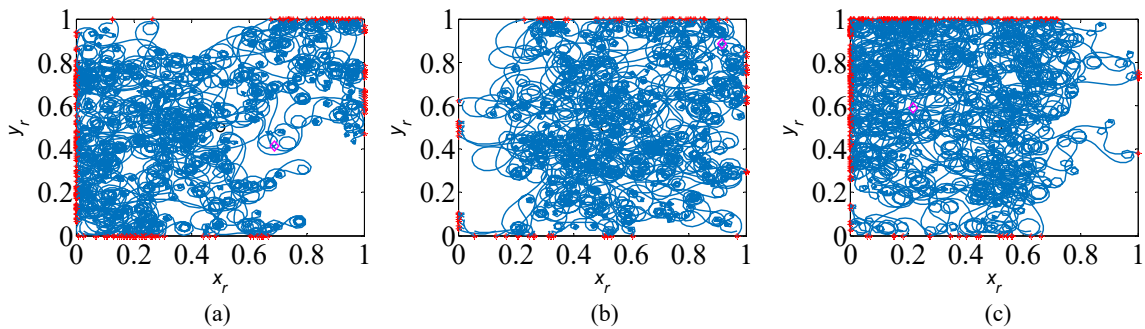


Fig. S8 The produced coverage trajectories at $c=27$ based on the Lü system, the used variable and coverage rate r_c : (a) x , $r_c = 86.25\%$; (b) y , $r_c = 91.25\%$; (c) z , $r_c = 84.75\%$

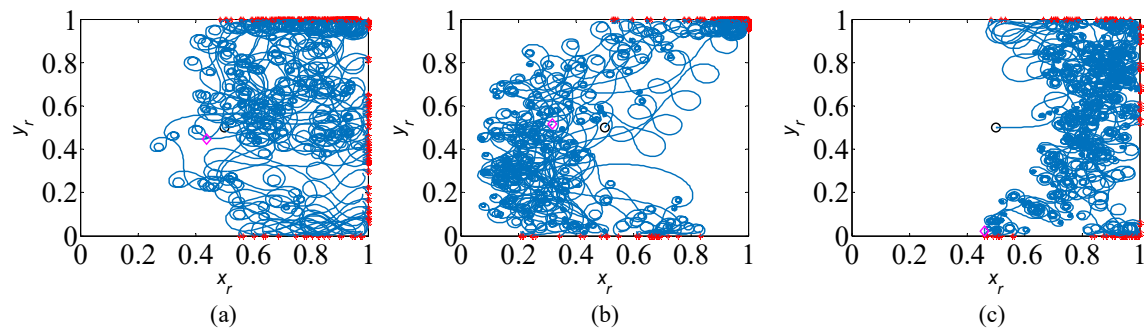


Fig. S9 The produced coverage trajectories at $c=25$ based on the Lorenz system, the used variable and coverage rate r_c : (a) x , $r_c = 64.25\%$; (b) y , $r_c = 69.25\%$; (c) z , $r_c = 45\%$

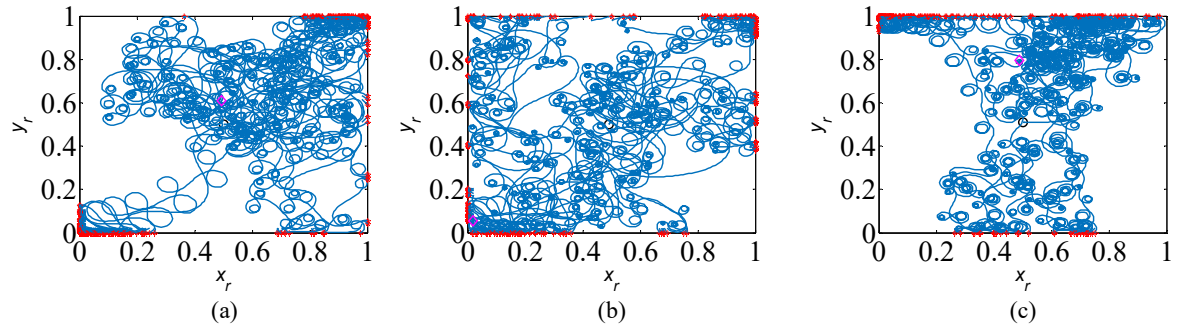


Fig. S10 The produced coverage trajectories at $c=28$ based on the Lorenz system, the used variable and coverage rate r_c : (a) x , $r_c = 77.25\%$; (b) y , $r_c = 85.5\%$; (c) z , $r_c = 59\%$