In order to increase the lower interception performance of the datalink, an optimal energy control algorithm based on the spatial information is proposed in this paper. Radiation power and starting time are selected as optimized variables, which are based on the threat factor of the target region and the real time spatial information of the datalink. A mathematical model of multi objective optimization is established to achieve minimum radiation power and energy cost. The hybrid chaotic particle swarm optimization (HCPSO) is used for the optimization of the energy control, and the solution which minimizes the two target functions is selected as the optimization solution. Compared with the constant radiation power method, the simulation results show that the proposed algorithm consumes less energy and has better performance of RF stealth.

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An Optimal Energy Control Algorithm for Radio Frequency Stealth Datalink Based on Spatial Information

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