A Design of Data Interaction Interface Based on DDS for UAV-Borne SAR Distributed Simulation

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Abstract—**UAV-borne synthetic aperture radar (SAR) has played an important role in the field of military reconnaissance, due to its advantages such as strong survivability, high resolution and high flexibility. Distributed interactive simulation technology to evaluate the combat effectiveness of the UAV-borne SAR has become a hot research issue. In this paper, a distributed data interaction interface, namely SARDDS, based on data distribution service (DDS) has been proposed to satisfy the requirements of high real time and high throughput of data interaction in the distributed simulation architecture of UAV-borne SAR. The data interaction interface follows the development specification of QualNet simulator and adopts publish-subscribe communication mode to realize the data interaction between various modules of the distributed simulation system. Experimental results verify the high real time and high throughput of the designed interface, which is of great significance to the distributed simulation for the UAV-borne SAR combat effectiveness evaluation.**

Keyword—**UAV-borne SAR, distributed simulation, QualNet, DDS, data interaction interface**

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