

Special Session: Guidance, Navigation and Control of Near space and Atmospheric Re-entry Vehicle

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The near space is a general term for the space with height of 20km to 100km level. Below it is the main activity space of traditional aircraft, and above it is what we usually call "space", which is the operation height of spacecraft. Near space low dynamic and high dynamic reentry vehicles can perform almost all the civil or military tasks that the aircraft and satellite can perform, while making up for the shortcomings of both. It can provide weather forecast, intelligence surveillance, and reconnaissance; carry payloads, crew member, cargo transportation or combat tasks and even navigation services as the platform like GPS satellite. The topics of this thesis include but are not limited to: dynamic modeling, guidance, navigation and control of near space and reentry vehicles, advanced control theory and application, sensor, measurement and airborne payload development, related innovative applications and new research trends.

临近空间与再入飞行器的制导、导航与控制

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临近空间是对海拔 20 千米到 100 千米空间范围的一个通用性称谓。其下是传统航空器的主要活动空间，其上是我们平常说的“太空”，是航天器的运行空间。临近空间低动态以及高动态再入飞行器可以执行飞机、卫星所能执行的几乎所有民用或军事任务，同时又弥补了二者的不足。既可以提供气象预报，又可以进行情报监视、侦察。既能搭载有效载荷，直接进行人员、货物运输或作战任务，也可以像 GPS 卫星一样为平台提供导航服务。本专题论文主题包含但不限于：临近空间与再入飞行器的动力学建模、制导、导航与控制问题，先进控制理论与应用，传感器、测量及机载载荷研发，相关创新应用及研究新趋势。