

Upcoming challenges in the control of next generation satellites – Thales Alenia Space view

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European leader for satellite systems and at the forefront of orbital infrastructures, Thales Alenia Space is owned by Thales (67%) and Finmeccanica (33%). Thales Alenia Space represents a worldwide standard for space development: from navigation to telecommunications, from meteorology to environmental monitoring, from defense to science and observation. Thales Alenia Space has 11 industrial sites in 4 European countries (France, Italy, Spain and Belgium). The Avionics and more particularly Attitude and Orbit Control System is a key component of satellite design and manufacturing. As new missions in all application fields (science, exploration, Earth observation, telecommunications) are more and more demanding in terms of performance, optimisation and reliability, control needs reveal to lead to tricky set of conflicting requirements. New modelling and analysis tools are also considered to improve design and validation methodologies and enhance the validation process. This presentation will focus on Thales Alenia Space experience and on-going control research studies on modelling, advanced robust control and analysis, and on analysis of control needs for future missions.