

Distributed space systems – constellations or formations?

Rainer Sandau

DLR, German Aerospace Center, Rutherfordstr. 2, 12489 Berlin, Germany

phone +49 30 67055 530

fax +49 30 67055 532

rainer.sandau@dlr.de

ABSTRACT

The recent trend of miniaturization accompanied with increased or even novel high performance features allows implementing distributed space systems with different basic characteristics. Distributed space systems with satellites carrying different payloads can for instance replace larger spacecraft providing also the potential of realizing performances and missions unachievable using the monolithic approach. After an introduction to the different concepts of distributed space systems like inspection and docking systems, formation flying, satellite constellations and spacecraft swarms, the paper concentrates on constellations and formations. Their widespread possibilities are presented by means of example missions.