



# Jovian multipoint magnetospheric and plasma science with EJSM

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## Abstract

The Europa Jupiter System Mission (EJSM) comprises two complementary spacecraft: the Jupiter Europa Orbiter (JEO) and the Jupiter Ganymede Orbiter (JGO). Whilst these spacecraft are ultimately aimed at detailed studies of Europa and Ganymede, they also provide the opportunity to do multipoint magnetospheric science in a fashion that has hitherto only been possible in the terrestrial magnetosphere. The additional provision of the Jupiter Magnetospheric Orbiter (JMO) by JAXA will add an extra dimension to such multipoint studies. Previous missions to the outer planets have only permitted the use of additional spacecraft as upstream monitors [e.g., Kivelson and Southwood, 2003; Hanlon et al., 2004]. Designs for the EJSM mission also allow for such an upstream monitor scenario, providing remote sensing of the Io plasma torus and upstream solar wind parameters with simultaneous measurements inside the magnetosphere. Opportunities also exist for multipoint science when JGO and JEO are in Jupiter orbit. In this presentation we discuss the drivers for multipoint synergistic science with JGO, JEO and JMO and discuss Io plasma torus physics, mass-loading and transport process, and the response of magnetospheric boundaries to changes in internal and external forcing.

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## References

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