



Enhanced electromagnetic sounding of Europa's ocean using CubeSats

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Diagnosing the properties of Europa's ocean is a key objective of the planned Europa Clipper mission. Magnetic field measurements reveal the inductive signatures of the ocean, but also contain perturbations from the magnetospheric interaction with Europa. Determining the properties of the ocean using this technique requires separating the induced field from that of the magnetospheric interaction. One solution is to use magnetometer-bearing CubeSats to make simultaneous flybys along trajectories separated from that of the Europa Clipper. We describe a concept for such nanosatellites and how they could greatly enhance the precision of induced magnetic field ocean soundings.