The Earth's magnetosphere is the closest laboratory amenable to detailed, in-situ measurements of collisionless astrophysical plasmas via spacecraft-borne experiments. In the previous three decades sophisticated, comprehensive instrumentation on large spacecraft, has revealed the microphysics of the magnetospheric plasma and characterized its response to the variable energy input from the Sun. This knowledge has opened new phenomenological questions regarding the cross-scale interaction and synergistic behavior of spatially distributed microphysical processes. Today's critical questions center around the need to explore a virtually untapped study domain of space plasma instabilities: that of wavenumber space. This necessitates large numbers of spacecraft (Constellations) and challenges conventional spacecraft and instrument engineering. This volume outlines the overarching scientific questions, presents mission concepts and describes spacecraft and instrument technologies for Constellation class missions. The material presented will be of interest to space plasma physicists, mission analysts and spacecraft engineers but also to planetary scientists and astrophysicists from the point of view of space accessibility and cost control of space experiments.