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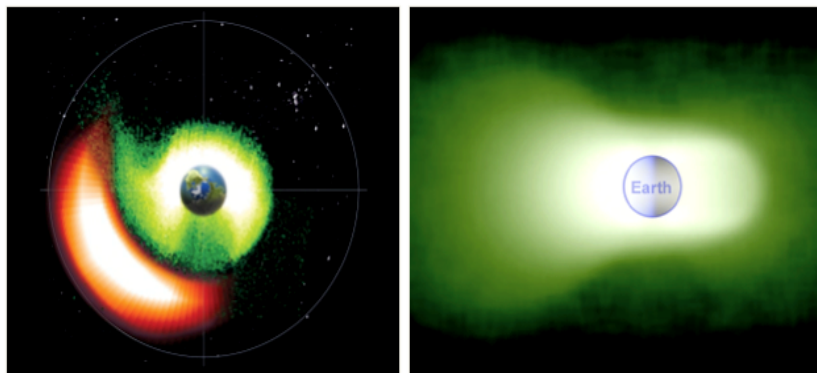
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The Cold Plasma of Geospace

In this talk I review some major highlights from the last 15 years of research on the *Earth's plasmasphere*. This torus of relatively cold (1 eV) plasma was for several decades generally thought to be relatively quiescent and unchanging. It was also widely believed that the plasmasphere had no major impact on other, much hotter, particle populations such as the Van Allen belts. Both of these widely-held beliefs were definitively disproven by the advent of global plasmaspheric imaging in 2000; the plasmasphere is both very dynamic, and exerts a major controlling influence on the rest of the magnetosphere. To discuss these topics, I will present global imaging observations by the NASA IMAGE mission, computer simulations, and more recent in situ measurements of the plasmasphere by NASA's Van Allen Probes mission.



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