

## Duskward and equatorward intrusion of morningside region 2 currents during magnetic storms

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We have investigated nightside field-aligned current systems during magnetic storms using DMSP-F7 particle and magnetic field data. During storms, the morningside region 2 intrudes into the equatorward of the eveningside region 2, sometimes extending up to 1800 magnetic local time. In order to model this peculiar current system, we have solved the analytic magnetosphere-ionosphere coupling model by Vasyliunas (1972) under several plasma pressure conditions. The analysis revealed that the peculiar current system is produced by the formation of a high-pressure region in the inner magnetotail that causes an eastward pressure gradient in the duskside magnetosphere.