Discovery of a Dynamic Atmosphere at Enceladus from Cassini Magnetometer Observations

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Cassini magnetometer observations from three targeted flybys of Saturn's icy moon Enceladus have revealed the existence of a dynamic atmosphere. This unexpected detection was originally made on a distant flyby and was subsequently confirmed on two follow-on flybys one of which was very close, at a distance of 173km from the surface of the moon. The magnetic field observations from all three flybys will be described as well as their interpretation. The observations from the second and third flybys are consistent with an atmospheric plume concentrated near Enceladus's south pole.