

# **OXYGEN IN THE RING CURRENT DURING MAJOR STORMS; IMAGE/HENA RESULTS**

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Since August 2001, IMAGE/HENA has had the capability to image energetic neutral atom (ENA) emissions from the ring current in both hydrogen and oxygen, separately. We have found that the 100 to 250 keV oxygen emission is generally well correlated with substorm activity during major storms, while the 16 to 60 keV hydrogen emission is poorly correlated with substorm activity (although well correlated with Dst index). The 60 to 120 keV hydrogen exhibits some characteristics of both the lower energy hydrogen, and the higher energy oxygen. In this paper, we explore the spatial development of the emission for hydrogen at both energies, as well as for energetic oxygen. While we are hampered by relatively poor angular resolution in the oxygen images, we will try to separate the effects of pitch angle scattering and precipitation from the effects of injection into the high altitude ring current, as the source of the oxygen enhancements that are observed.