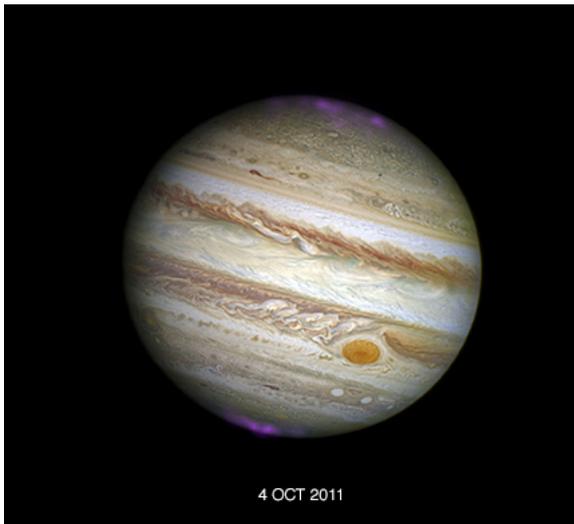




Chandra Science Highlight

Jupiter: Solar Storm Ignites 'Northern Lights' on Jupiter



Jupiter and its aurora during (above) and two days after (below) the arrival of an interplanetary coronal mass ejection (ICME) at Jupiter in October 2011. X-ray data from Chandra (purple) have been overlaid on an optical image from the Hubble Space Telescope.

- ❑ A factor ~ 8 enhancement in Jupiter's X-ray aurora was observed at the predicted arrival time of an ICME.
- ❑ Within 1.5 h of this enhancement, intense bursts of decametric radio emission occurred. This radiation was not correlated with the position of Jupiter's moon Io, and is thought to be produced by disturbances in Jupiter's magnetosphere.
- ❑ The data suggest that the auroral enhancement is driven directly by the ICME through Jovian magnetosphere compression and/or a large-scale dayside magnetic field reconnection event.

Scale:

Each image is 60 arcsec across

Distance Estimate:

650 million km

Reference:

Dunn, W. et al, 2016, JGR (accepted)

Credit:

X-ray: NASA/CXC/UCL/W.Dunn et al,
Optical: NASA/STScI

Instrument: ACIS

