MARCH 17, 2015 STORM:
SAMII3/RCM MODEL COMPARISONS TO
TEC DATA

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\[ \nabla \cdot \left( \Sigma_{\text{SAM3}} + \Sigma_{\text{RCM}} \right) \nabla \Phi = S \left( V_n, J_{||}(t) \right) \]
TEC DATA

longitude = 30°
longitude = 30°
longitude = 30° latitude = -5° (data: black; model: red)
longitude $= 290^\circ$
DATA/MODEL COMPARISON

longitude = 290° latitude = 10° (data: black; model: red)
longitude = 290° latitude = 30° (data: black; model: red)
DATA/MODEL COMPARISON

longitude = 290° latitude = 40° (data: black; model: red)
SAMI3/RCM used to model March 17, 2015 storm
quantitative comparison with TEC data
model results agree reasonably well in the low- to-
mid-latitude ionosphere
both show stormtime enhancement of the electron density in
the mid-latitude ionosphere during local daytime / early
evening
caveat: SAMI3/RCM uses untilted, aligned dipole
geomagnetic field; despite this results are good (offset
model/data by difference in magnetic and geographic equator)