2018 Space Weather Activities in Ukraine

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Main Center of Special Monitoring
National Space Facilities Control and Test Center is an operational agency under SSAU responsible for:

- Spaceflight control and comms
- Analysis of remote sensing data
- Navigation and time service
- Space situational awareness
- Geophysical monitoring

Operational space weather activities are handled by Main Center of Special Monitoring, one of 9 branches of NSFCTC.
Space weather operations started Feb. 2018
NOAA alerts are relayed with correction for geomagnetic latitude
Post-event analysis is performed using local measurements from:
- 2 magnetic stations (Malyn, Kamianets-Podilskyi), Main Center of Special Monitoring
- 3 Intermagnet magnetic observatories (Kyiv, Lviv, Odesa), Subbotin Institute of Geophysics
- 1 meteomagnetic station (Kharkiv), Institute of Radio Astronomy
These products are delivered daily to the Main Situational Center of Ukraine
The construction of a new operational room is in progress
New operational products are in development
Local geomagnetic forecast

- New product, no known alternatives
- Directly predicts magnetic components at an observatory
- Lead time: 3 hours + propagation time from L1
- Currently available for 3 magnetic observatories: Lviv (Ukraine), Boulder (USA), and Chambon-la-Forêt (France)
- Developed by the Space Research Institute
- Example output for the 2015 St. Patrick's storm (Boulder):
  black is measurements, red is forecast 3 hours ahead

X (northward)  Y (eastward)  Z (downward)
- Updated product
- Provides background noon and midnight values of
  - critical frequency (foF2),
  - maximum electron density (NmF2), and
  - height of the maximum electron density layer (hmF2)
- Developed by the Institute of Ionosphere
- Example output for February 2019:
Thank you!