

Tools for Monitoring Quality of Digisonde Data



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“What can go wrong” Presentations

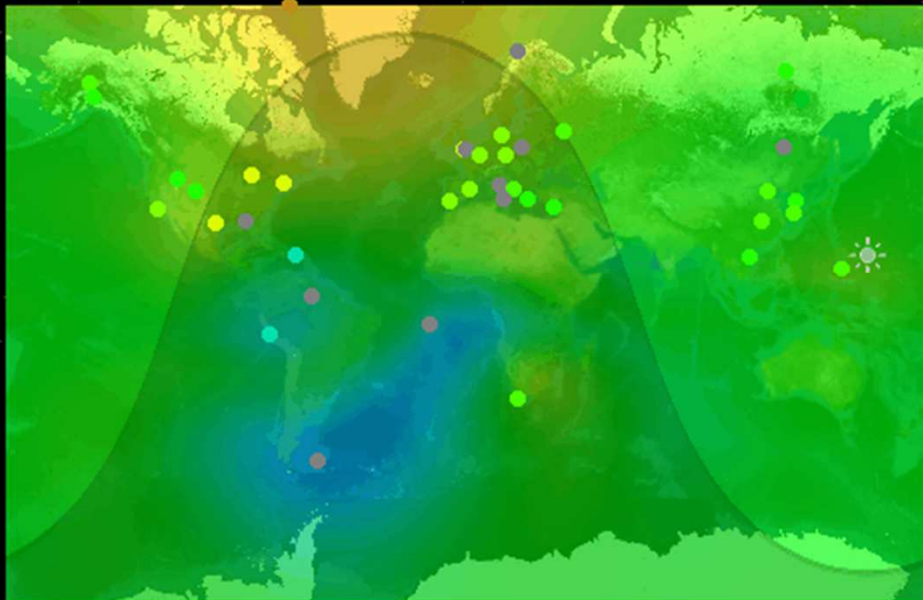
- Digisonde programming mistakes – IG
- Hardware troubleshooting with BIT and DCART – RH
- Lightning Protection – IL
- Software troubleshooting – IG
- Computer security and Windows XP – RH
- How to find out your digisonde is not working right - IG

Outline

- Rapid quality monitoring
 - Latest ionogram pages [are going away]
 - IRTAM
 - 24-hour ionogram movies
- Automated quality monitoring
 - WatchIt

IRTAM v0.1B

Time UT - 2014.05.13 01:37:00

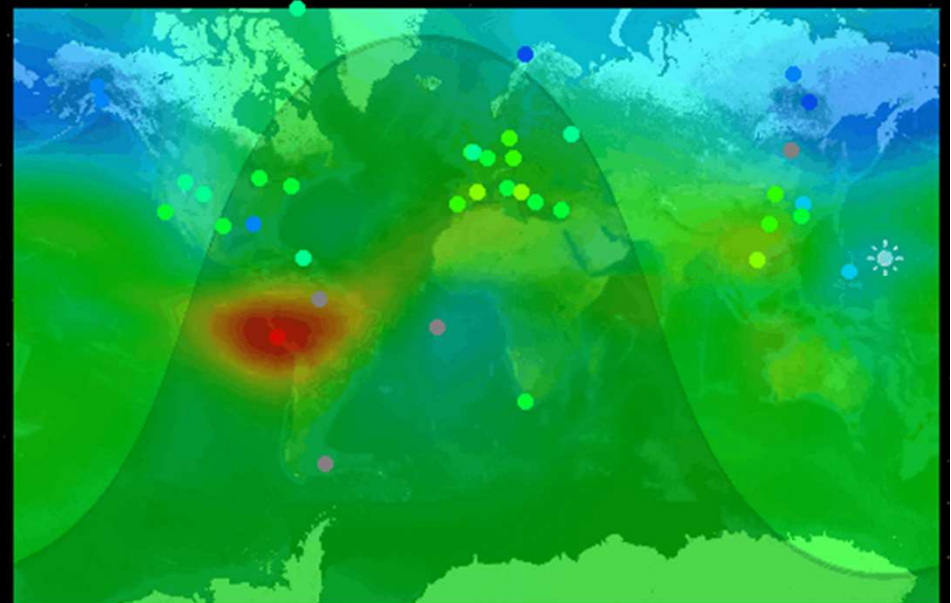


Map: foF2 (IRTAM-IRI)/IRI % Circles(sites): foF2 (GIRO-IRI)/IRI %

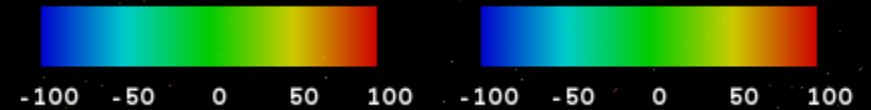


IRTAM v0.1B

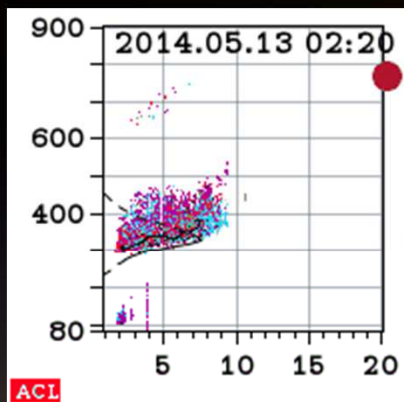
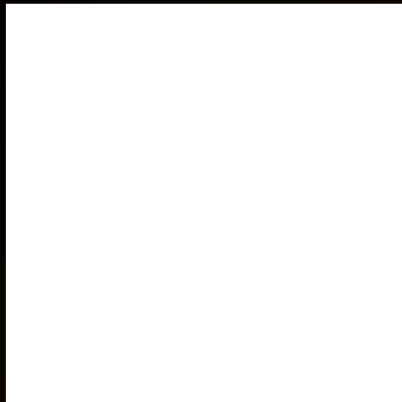
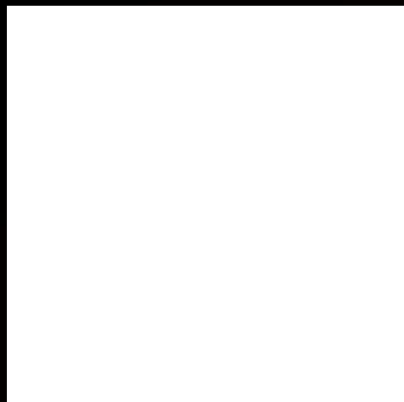
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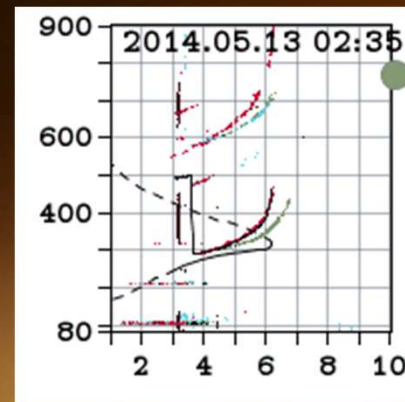
Map: hmF2 (IRTAM-Brunini) Circles(sites): hmF2 (GIRO-Brunini) km



WHAT TO LOOK FOR: missing data, outstanding deviations, blinking grey



REAL-TIME DATA
not available



WHAT TO LOOK FOR: missing data, blinking white, black, poor ACL, Spread=F dot

WatchIt Data Alerts

- Digisonde network state of health
 - 20 station
- Set of criteria to trigger data alerts
 - Email to subscribers
- WatchIt is a software layer on top of DIDBase

Alert Criteria

- For every station check for no data for more than 4 hours
 - Init file parameter: noDataInHours=12.0
 - Get time of latest available data
 - Compare to current time
- For every station check for empty ionogram/scaling for more than 70.0 % of data for latest 4 hour(s)
 - Init file parameter: emptyDataInHours=12.0
 - Init file parameter: percentOfEmptyData=70.0
 - Empty data:
$$(\text{countFOEP} - \text{countFMIN}) / \text{countFOEP} * 100$$

Periodic Criteria Checks

- Schedule run of WatchIt application twice a day 7:00 and 16:00 LT
- Send email only if alert status changes
 - Reduce unnecessary emails
- Also a Web Page
 - Always latest information on Internet

WatchIt Future

- Develop it into a subscription service?
 - Register
 - Identify which stations to watch
 - Get alerts if station data triggers criteria

Dalu

감사합니다

Gracias Danke Ευχαριστίες

THANK YOU

Obrigado

Köszönöm

Tack Grazie Спасибо Dank 谢谢 Merci ありがとう

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