



ISTF/5 - SP/03
Agenda Item 4e
16/02/15

Chennai GPS Iono Data Analysis



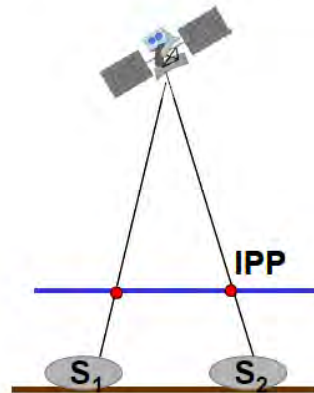
Agenda

- **Iono Data Analysis Method**
- **Chennai Gradients**
- **Rio Gradients**
- **Scintillation**
- **Summary**

Iono Data Analysis Method

- **Convert NovAtel GPStation-6 data to RINEX**
- **Process RINEX data through Bernese tool**
 - Bernese settings shown to provide similar results to LTIAM
 - Output provides carrier-based, phase leveled, TEC
- **Gradients are computed by evaluating TEC differences from station pairs using the same satellite**

Station Pair Method



Chennai GPS Data Collection



- **Baselines**
 - 1-2 2.7km
 - 2-3 2.2km
 - 1-3 4.3km
- **Airport network installed November, 2013**
 - Receiver 1 moved Nov, 2014

Chennai Gradients

- **311 mm/km – Apr 14, 2014**
- **260 mm/km – Feb 13, 2014**
- **252 mm/km – Feb 11, 2014**
- **250 mm/km – Feb 9, 2014**
- **243 mm/km – Feb 27, 2014**
- **237 mm/km – Feb 15, 2014**
- **208 mm/km – Mar 8, 2014**
- **204 mm/km – Mar 27, 2014**
- **198 mm/km – Feb 28, 2014**
- **159 mm/km – Nov 15, 2013**
- **148 mm/km – May 23, 2014**
- **144 mm/km – Nov 22, 2013**
- **138 mm/km – Dec 20, 2013**
- **134 mm/km – Nov 18, 2013**
- **133 mm/km – Feb 8, 2014**
- **85 mm/km – Jan 3, 2014**
- **84 mm/km – Nov 16, 2013**
- **84 mm/km – Feb 19, 2014**

Rio de Janeiro GPS Data Collection

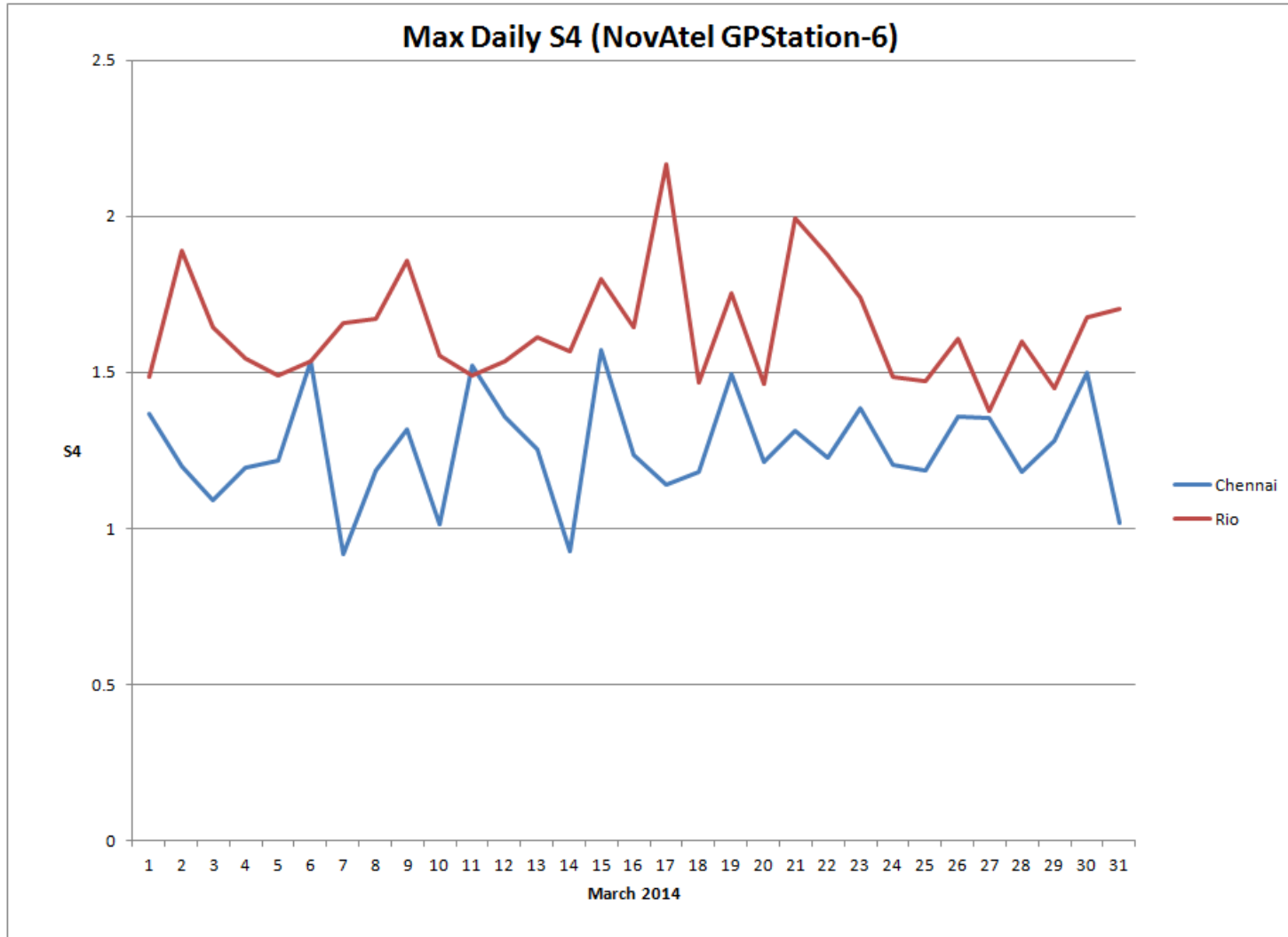


- **Baselines to GBAS shelter**
 - RIOD 6km
 - ONRJ 11km
 - LOC-15 3.7km
 - LOC-10 3.9km
- **Airport network installed April, 2013**
 - Shelter August, 2012

Rio de Janeiro Gradients (>300mm/km)

- **731 mm/km – Mar 7, 2014**
- **394 mm/km – Feb 26, 2014**
- **377 mm/km – Mar 1, 2014**
- **302 mm/km – Oct 24, 2013**

Scintillation



Summary

- **Chennai GPS receiver network available Nov, 2013**
- **Honeywell can provide the gradients or raw data for a specific day**

