



РОСКОСМОС

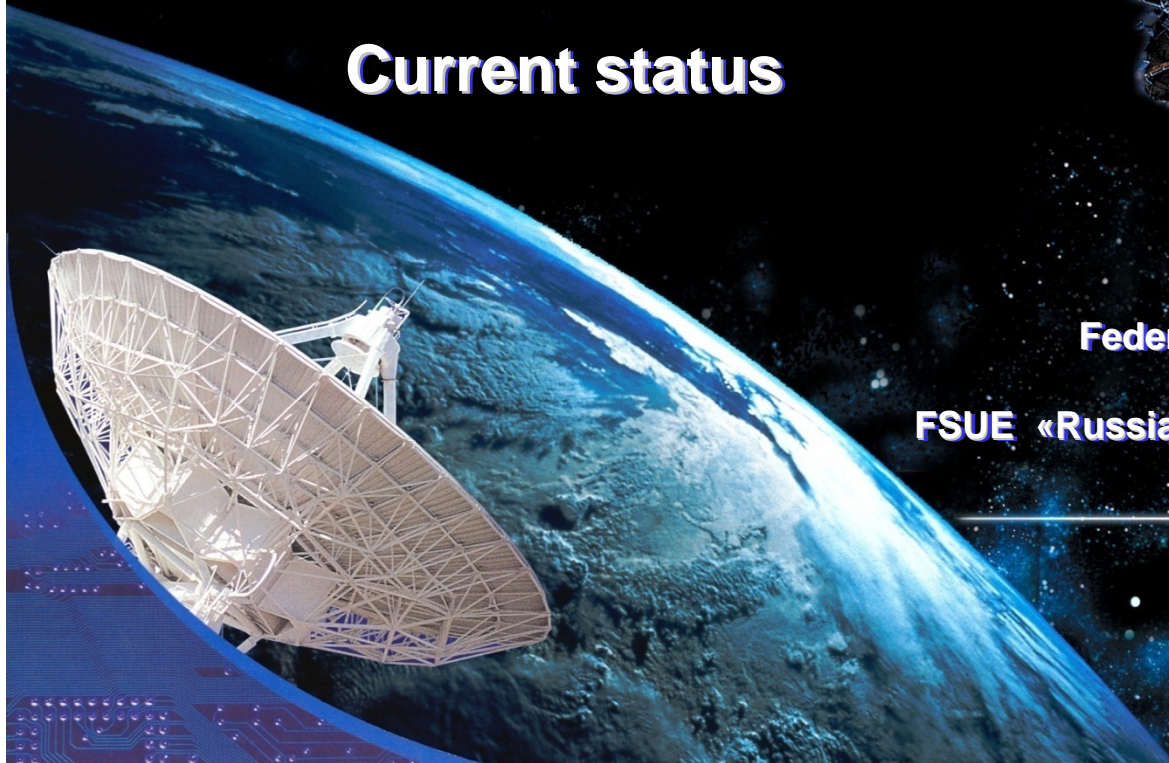


# System of Differential Correction and Monitoring (SDCM)

## Current status

Federal Space Agency (Roscosmos)

FSUE «Russian Institute of Space Device Engineering»





## Main tasks of SDCM

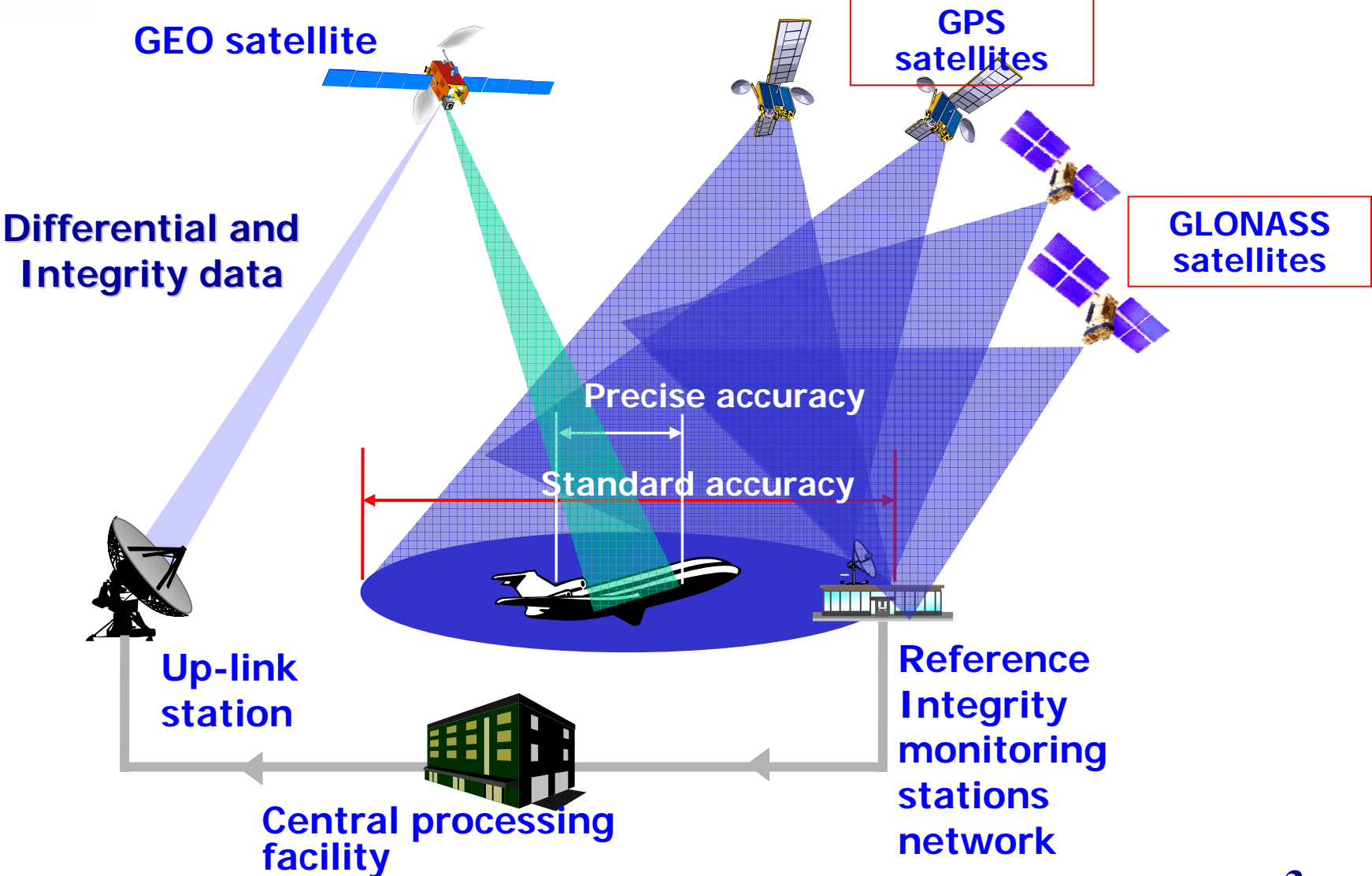


### **GPS and GLONASS signals are used for:**

1. Positioning of “meter” accuracy with high reliability in real time
  - horizontal accuracy: 1.0 - 1.5 m
  - vertical accuracy: 2.0 - 3.0 m
2. Relative positioning of “centimeter” accuracy with high reliability in real time (relative to reference stations)
3. Real time integrity monitoring for GLONASS and GPS
4. A posteriori integrity monitoring for GLONASS and GPS



# SDCM operation principle





ПООКООСМООС

## SDCM reference stations network



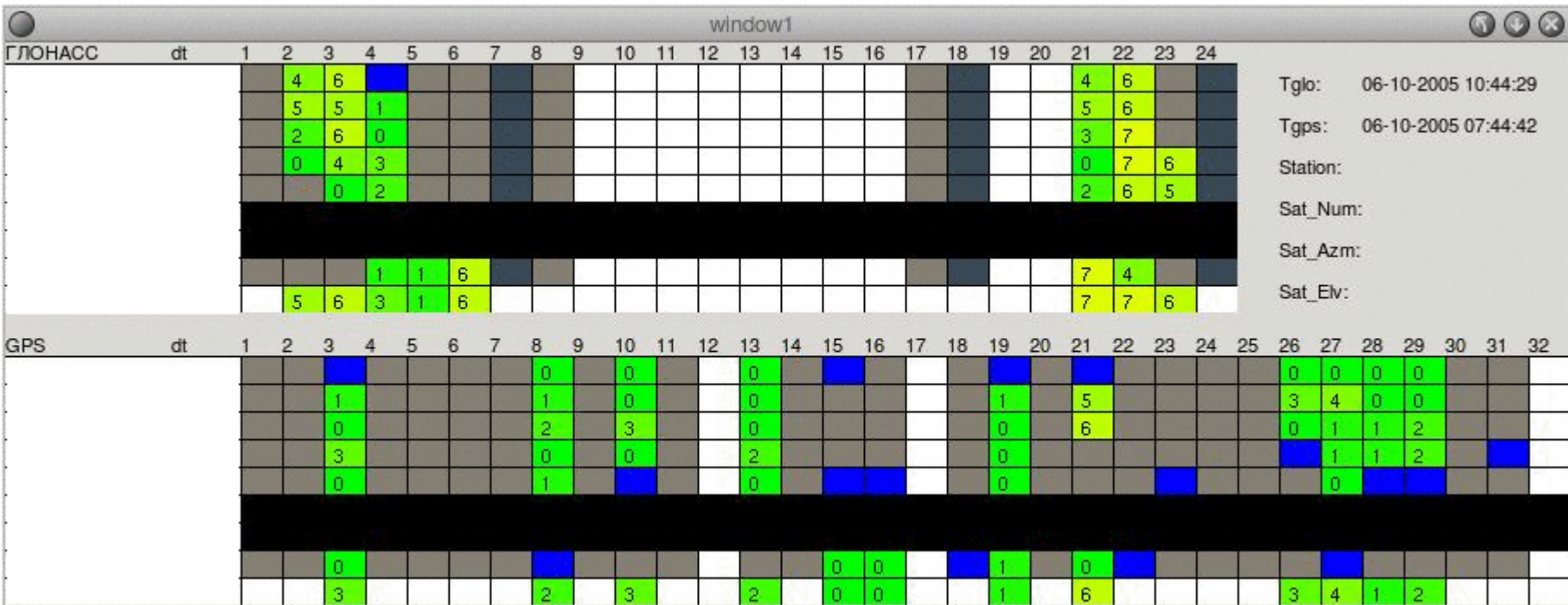
First part of SDCM reference stations network was put into operational testing in 2007







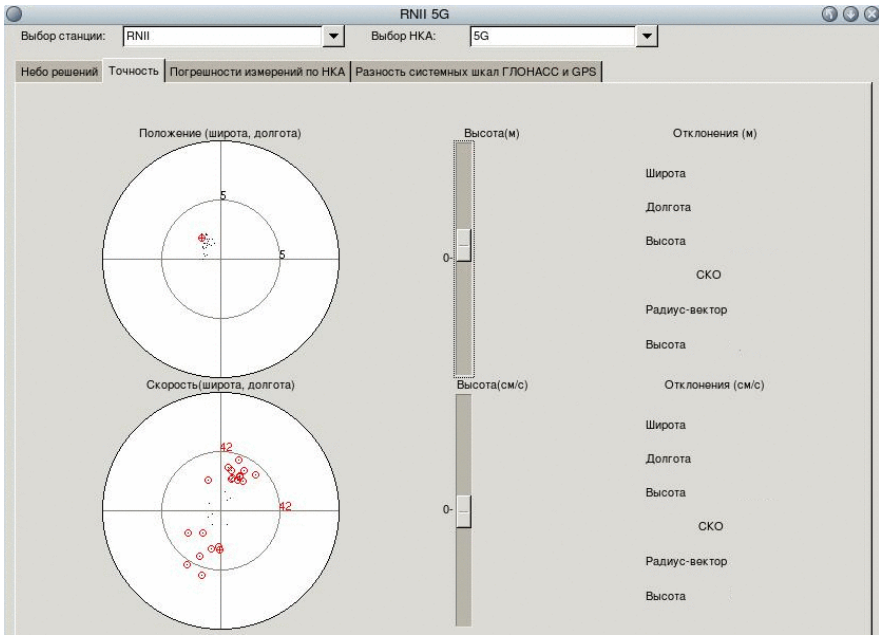
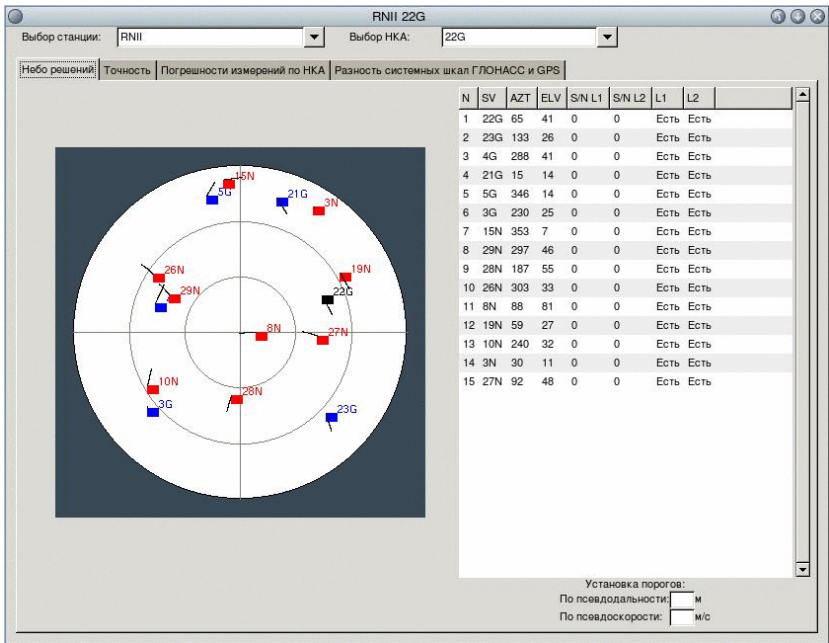
# Real time monitoring: integrity index "In"



In = integrity coefficient



# Real time monitoring: current values of residuals

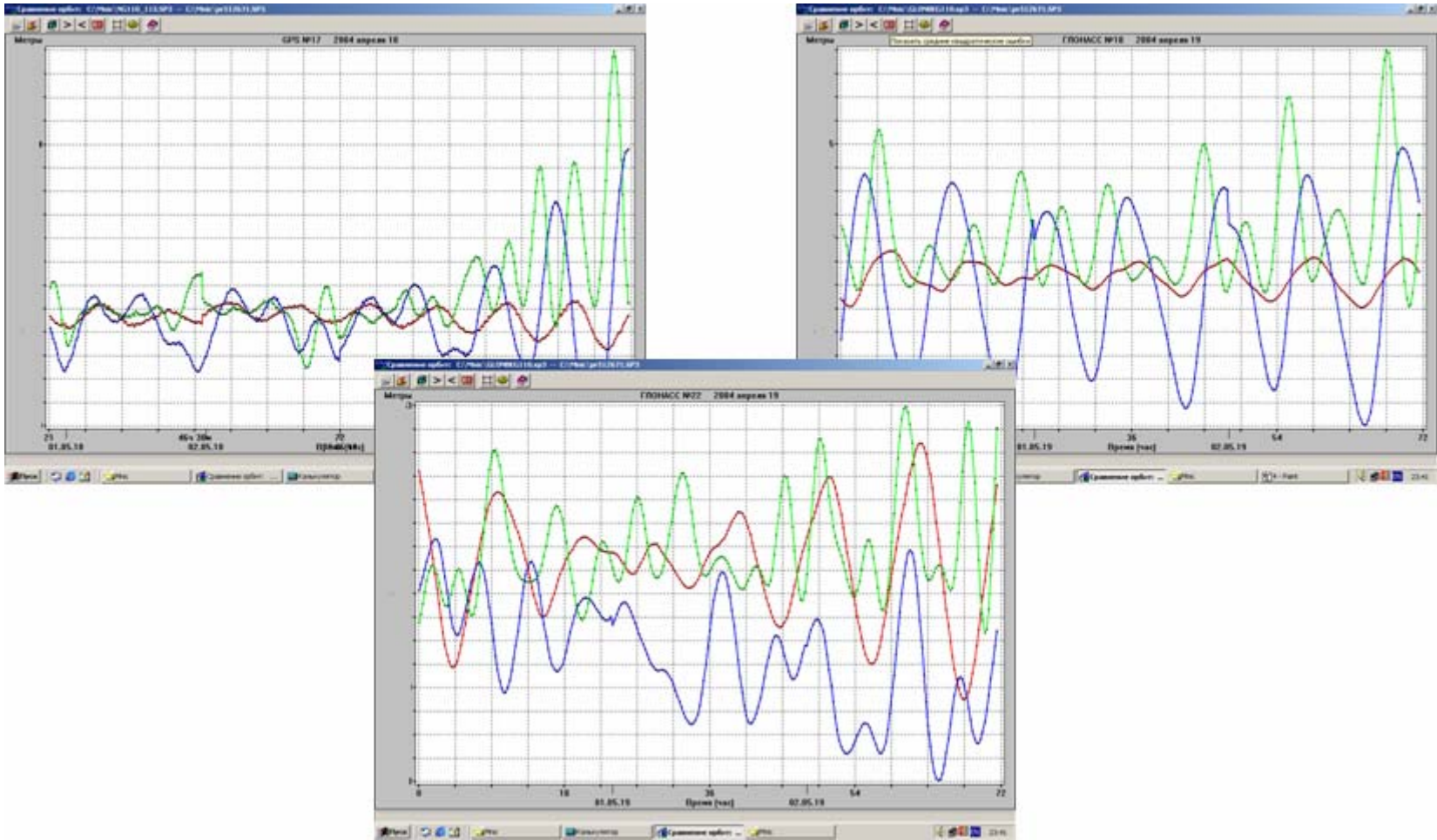




# A posteriori monitoring



## Satellite system status estimation

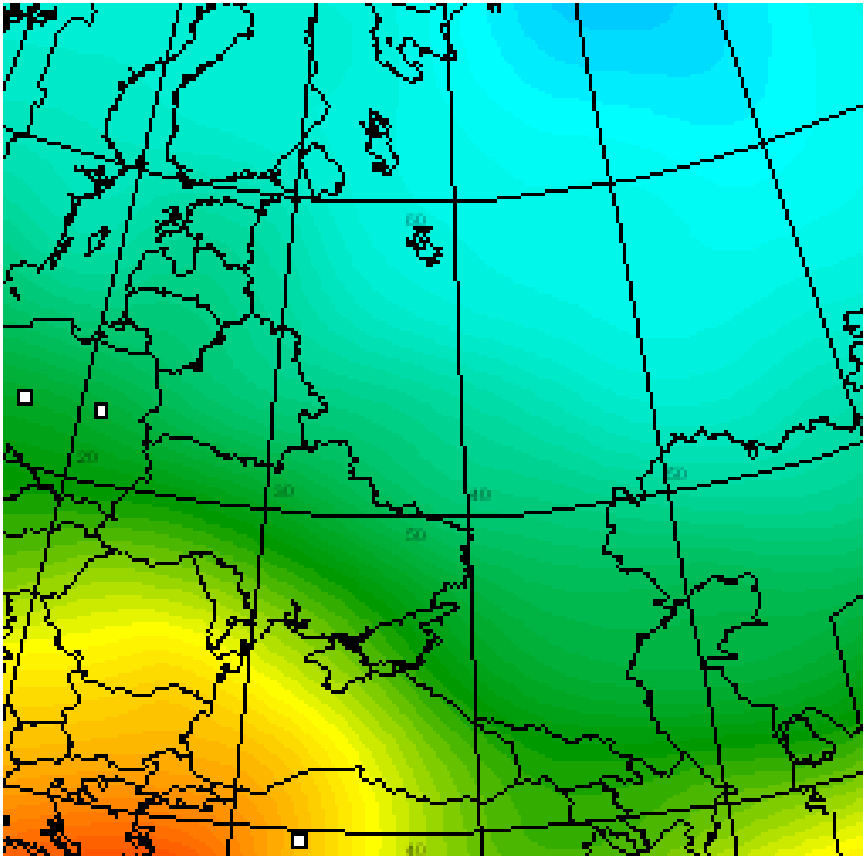




# A posteriori monitoring



## Ionosphere status estimation







# Information on the Internet: www.sdcm.ru



The collage shows several browser windows displaying the website [www.sdcm.ru](http://www.sdcm.ru). The pages include:

- Текущее состояние орбитальной группировки ГЛОНАСС**: A diagram showing the current orbital configuration of the GLONASS satellites in three planes (1st, 2nd, and 3rd).
- Точность измерения псевдодальности ГЛОНАСС**: A table showing the accuracy of pseudorange measurements for various satellites.
- Доступность ГНС ГЛОНАСС на данный момент времени**: A world map showing the availability of GLONASS signals across different regions.
- Оперативный мониторинг ГЛОНАСС и GPS**: A table providing real-time monitoring data for both GLONASS and GPS satellites.
- Точность измерения псевдодальности ГЛОНАСС**: A table showing the accuracy of pseudorange measurements for various satellites.
- Состав и состояние группировки ГЛОНАСС**: A table detailing the composition and status of the GLONASS satellite constellation.



**Thank you!**