



JSC "Academician M.F. Reshetnev  
"Information Satellite Systems"



**GLONASS Training Course for African Regional  
Centre CRASTE-LF  
Rabat (Morocco) , May 23-27, 2016**

**Marina Molokanova, Dmitry Marareskul**

**ICG-11**

**November 6-11, 2016, Sochi, Russian Federation**

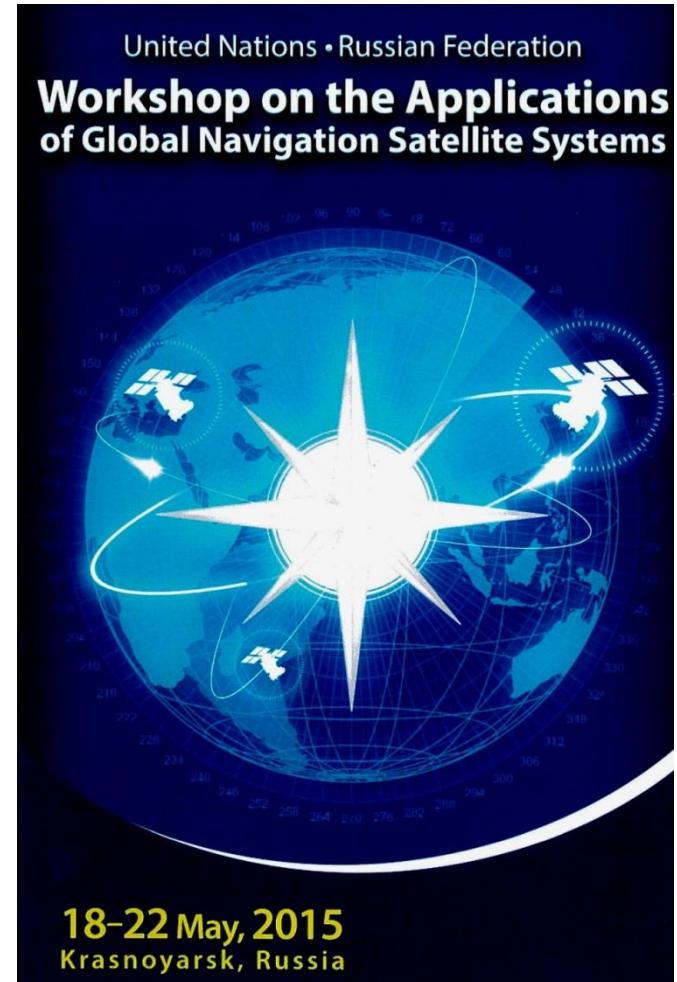
# Sources...

...40. Participants noted with satisfaction that the GLONASS training course would be organized during the nine-month postgraduate course on remote sensing and geographic information systems and satellite meteorology and climate change in 2016 at the African Regional Centre for Space Science and Technology Education in the French Language in Morocco (see [www.crastelf.org.ma/](http://www.crastelf.org.ma/)).

Report on the United Nations/Russian Federation workshop on the applications of global navigation satellite systems (Krasnoyarsk, Russian Federation, 18-22 May 2015)

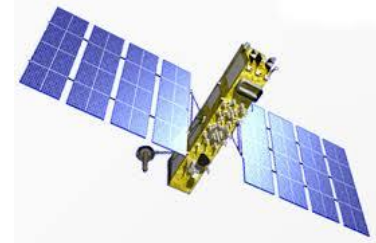
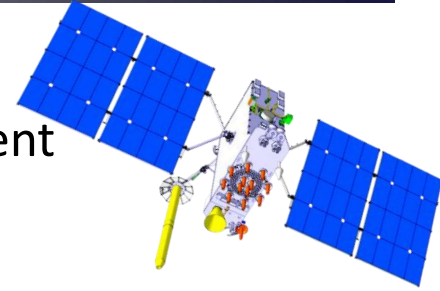
31.08.2015 г.

A/AC.105/1098



# Programme

- The GLONASS system. History of satellite navigation in Russia
- GLONASS architecture. Space segment. Ground control segment
- GLONASS signals
- Structure of FDMA and SDMA signals
- GLONASS reference frames and GLONASS time
- Coordinates calculation for Glonass satellites
- Structure of GLONASS navigation message
- Proposed navigation message structure for future CDMA navigation signals
- Ranging error sources. Technologies for error modeling and mitigation
- Signal processing approaches. Phase and code measurements. Ambiguity resolution
- GLONASS applications The GLONASS Federal program. Prospects for the System development
- International cooperation in the field of GNSS.
- Compatibility and interoperability of GNSSs



# Participants

Specialists in the field of geodesy, aviation, information technologies, education from African countries speaking French language





# Roundtable discussion

The last day of the GLONASS training course was organized in roundtable format where questions were posed and answered concerning numerous aspects of the GLONASS operation.

The discussion demonstrated the interest in future cooperation of CRASTE-LF with ISS-Reshetnev and other organizations from Russian Federation.



# Exchange of opinions

GLONASSC training course had successfully completed. Listeners and trainers are inspired and satisfied





# Exchange of opinions

Exchange of opinions  
and plans for future  
activity



# Summary

1. First experience of the GLONASS visiting school was successful, and it is reasonable to continue the GLONASS schools where specialists representing Russian space industry and higher educational institutes will take part
2. GLONASS – is the key part of the multi-GNSS, therefore it is important to advance the GLONASS technologies and share the Russian experience with other countries



