

CN428 Glonass Fundamentals & Modernization
September 16, 2008, 8:30 am-12:00 pm, CEU: 3.0, prior to ION GNSS 2008
Marriott Savannah Riverfront, Savannah, GA

Instructor: Sergey Revnivykh Central Research Institute of Machine Building (TsNIIImash),
Dr. Sergey Karutin, Russian Institute of Space Device Engineering (RISDE)

Prerequisite: Some knowledge of mathematics and engineering or physics will be useful.

Intended Audience: Engineers, scientists, and managers interested in the area of GNSS using Glonass. The course provides a solid basis in the fundamental aspects of Glonass and the modernization efforts for Glonass.

Notes Provided: Slides presented will be professionally spiral bound, with clear plastic cover, including color to add clarity where needed.

Reference List: A reference list will be provided as part of the note package for completeness and to allow the interested attendee to obtain additional information.

Course Overview: This course emphasizes the fundamental and modernization of Glonass. The first third will cover the fundamentals aspects of Glonass to include the Glonass signal structure and program overview. The next third will cover orbit optimization and Glonass time determination. Glonass signal processing will follow and Glonass modernization efforts will be details.

Course Content: The main topics to be covered by this course are:

- Glonass program overview and history
- Glonass signal format and structure
- Glonass orbit optimization
- Glonass time synchronization
- Glonass signal processing features
 - FDMA signal processing for relative positioning
- Glonass Modernization:
 - New CDMA signals
 - Ground control facilities upgrade
 - SBAS developments in Russia

Course Outcomes: At the completion of this course, the attendee should have the ability to understand the fundamentals aspects of Glonass and the modernization efforts associated with Glonass. For additional knowledge on modernization of GNSS, CN420 GPS Modernization & Relation to other GNSS is recommended.