

KASI Combination Center Report

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Abstract

This report introduces the Korea Astronomy and Space Science Institute (KASI) and describes the planned activities of the KASI as an IVS Combination Center.

1. General Information

The proposal of the Korea Astronomy and Space Science Institute (KASI) for becoming an IVS combination center was accepted on October 21, 2008. KASI is one of the affiliated organizations of IVS.

KASI Headquarters is located in the Daeduk research and development complex, Daejeon. The Space Geodesy research of KASI was started in 1992 with GPS. Now the KASI Space Geodesy research division is composed of three groups including the Earth Observing System (EOS) research group. The EOS research areas are based on Space Geodetic techniques such as GNSS, VLBI, SLR and Gravimeter and are focused on the changes of the Earth's shape and its geodynamics. The EOS research group also works on the applications of Space Geodesy such as an early warning system of natural hazards. The EOS group will be in charge of an IVS combination center as an extension of research on the Earth's shape changes.



Figure 1. KASI Headquarters

2. Personnel

Table 1. Personnel at the KASI Combination Center

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3. Future Plans

The KASI combination center is considering using ADDNEQ, a subprogram of the Bernese software that is one of the prevailing GPS data processing and analysis tools. KASI has had long experience with using the Bernese software package since the middle of the 90's and has been equipped with Bernese 5.0.

As the first task, we will investigate the algorithm and the structure of the ADDNEQ program to see whether it can properly be applied to geodetic VLBI purposes. If necessary, we may have to obtain the approval of the Astronomical Institute, University of Bern (AIUB) for the modification of ADDNEQ subroutines for application to VLBI combination.

After the arrangement of ADDNEQ, we will produce preliminary combination results and prepare the following functions described in our proposal as an IVS combination center.

- Perform quality control of the Analysis Center results
- Provide feedback to the Analysis Centers
- Create high quality combination products and perform timely archiving and distribution
- Generate official IVS input to the ITRF
- Adhere to the IERS Conventions

After consultation with the IVS Analysis Coordinator during the preparation period, KASI's duties will be finally fixed.