

# KASI Combination Center 2014 Annual Report

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**Abstract** This report briefly summarizes the activities of the combination center of Korea Astronomy and Space Science Institute (KASI) for the year 2014. The current status and the future plans are also described.

## 1 General Information

The KASI IVS Combination Center is located in Science Complex in Daejeon, South Korea. As a government-funded research institute, KASI operates the IVS Combination Center based on experiences of GNSS data processing using Bernese software (hereafter Bernese). Bernese with the subprogram ADDNEQ2 has been used for normal equation stacking and estimation of VTRF and EOPs [1]. In addition to playing the role of an IVS Combination Center, the KASI Space Geodesy Group is also in charge of geodetic applications of the KVN (Korean VLBI Network).

## 2 Activities during the Past Year

KASI is facing the phase of geodetic applications using the KVN. KVN Tamna among three KVN stations was first surveyed in terms of Invariant Point (IVP). For the task, a 3D Laser Scanner was introduced for visualizing the IVP variations. A GNSS survey was also carried out for the coordinate transformation from topocentric

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to geocentric. As a result of the test surveys, it is recognized that more dense measurements for both, with additional elevation and azimuth angles, are necessary.

## 3 Current Status

Dr. Younghee Kwak moved to the Advanced Geodesy Group of the Vienna University of Technology in late March and is working at the group as a project assistant. The Space Geodesy Group has been re-organized since June, and Dr. Jungho Cho has been appointed as head of the group. The Space Geodesy Group continuously handles IVS Combination Center tasks as well as KVN geodetic applications.

## 4 Future Plans

In 2015, VTRF which was determined by the modified Bernese in 2013 will be improved in terms of precision. In a couple of years, the three IVPs of the KVN telescopes will be determined and will be on a periodical survey schedule. In the next few years, KASI will contribute to the Asia-Oceania VLBI group for Geodesy and Astrometry (AOV) as an Analysis Center.

## References

1. Kwak, Y. and J. Cho, *KASI Combination Center 2013 Annual Report*, IVS 2013 Annual Report, 288-291, NASA/TP-2014-217522, ed. by K. D. Baver, D. Behrend, and K. L. Armstrong, 2014.