

SLR continuous observation at the Shimosato Hydrographic Observatory after 1982

*Yusuke Yokota¹, Hiroko Fukura²

1. Japan Coast Guard, Hydrographic and oceanographic department, 2. Japan Coast Guard, Shimosato Hydrographic Observatory

Satellite Laser Ranging (SLR) plays an important role for the Global Geodetic Observation System (GGOS). The Hydrographic and Oceanographic Department of the Japan Coast Guard (JHOD) has conducted the SLR observation at the Shimosato Hydrographic Observatory (SHO) since 1982. For 35 years, the SLR observation at the SHO made a great contribution to establishing a world geodetic system as a national geodetic system in Japan in 2002. The Shimosato station also observed crustal movements of the 2004 Kii Peninsula earthquakes and the 2011 Tohoku-oki earthquake. In addition, the Shimosato station also plays a role as the mainland reference point of the marine geodetic control network based on MGC2000. In this presentation, we review results of the SLR observation at the SHO. The fact that the SLR observation was continuously performed at the same point for 35 years is significant for not only a framework of a national geodesy in Japan but also a global geodetic framework. It is also valuable to discuss a framework of the future GGOS.

Acknowledgements: We acknowledge supports from NAO, JAXA, NICT, ILRS, and many associations around the world. We thank the senior staffs in the Shimosato Hydrographic Observatory for their efforts for maintenance and operation of SLR continuous observation.

Keywords: SLR, Laser ranging