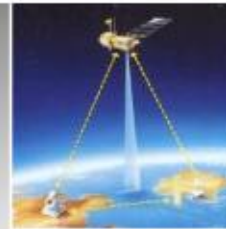
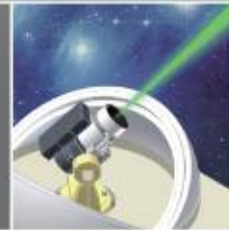


The Contribution of Korean Side to the ILRS



James Park, Hyung-Chul Lim,
SungKi Cho & Jae-Cheol Yoon

KASI/KARI

17th International Workshop on Laser Ranging, Germany, May , 2011

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01 Introduction

02 ARGO Project

03 KOMPSAT-5 Project

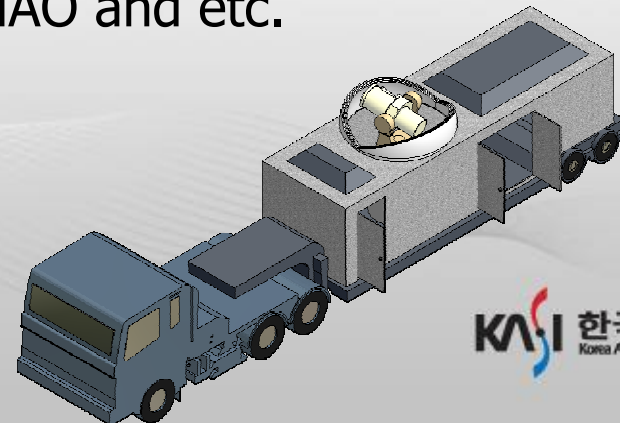
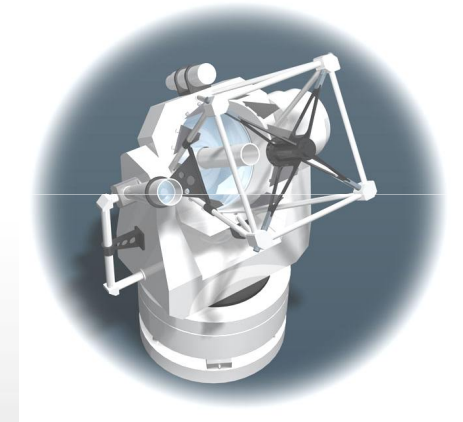
04 Future Plans

Introduction

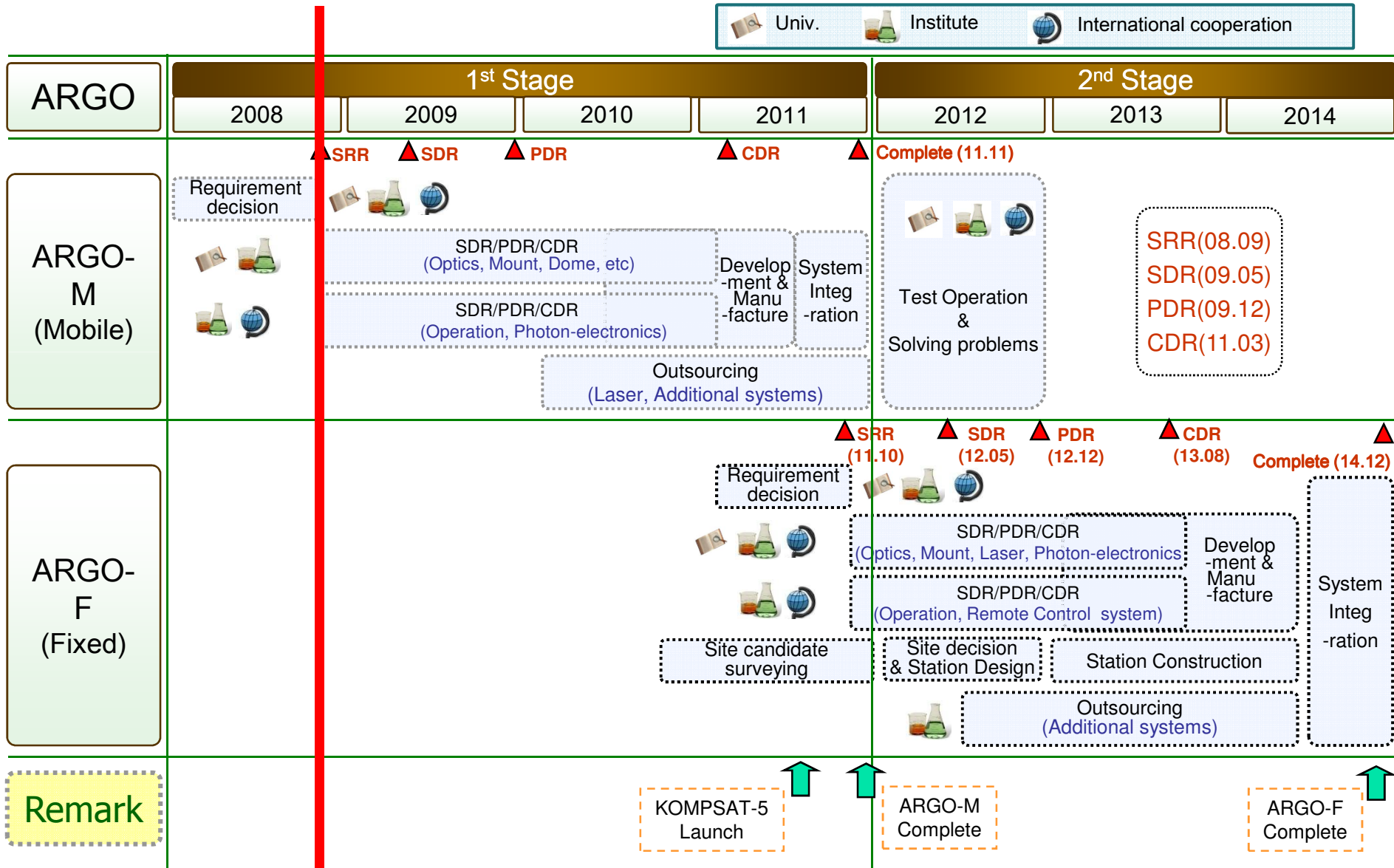
- ❑ Special Lecture by Dr. Choi at Changchun Station in 1991
- ❑ Discussion about the Korean SLR system in 2001/2002
- ❑ Feasibility Study on Korean SLR system in 2004/2005
- ❑ Planning Study on the R&D Project for SLR in 2005/2006
- ❑ Development of Korean SLR Systems (ARGO) from 2008
- ❑ Launch Failures of 1st & 2nd STSAT-2 in 2009/2010
- ❑ Launch Campaign of KOMPSAT-5 in August, 2011
- ❑ 40 Cm Mobile SLR System (ARGO-M) in 2011
- ❑ Launch Campaign of 3rd STSAT-2 (NARO-Sat) in 2012
- ❑ 1 Meter Fixed SLR System (ARGO-F) in 2014

ARGO - Overview

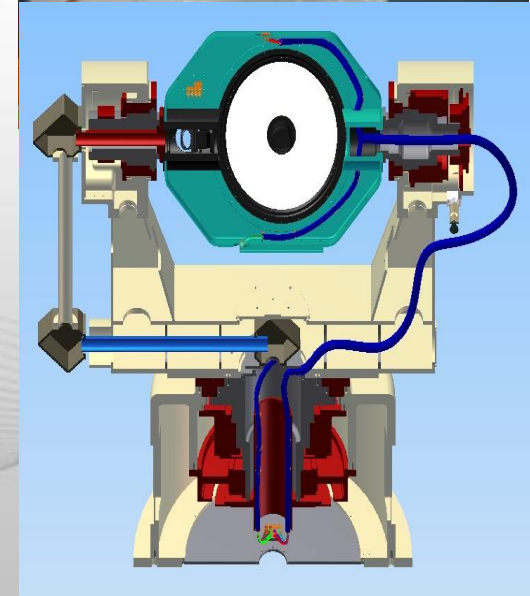
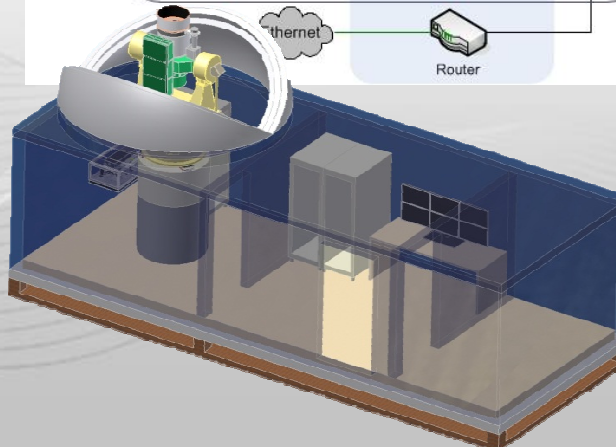
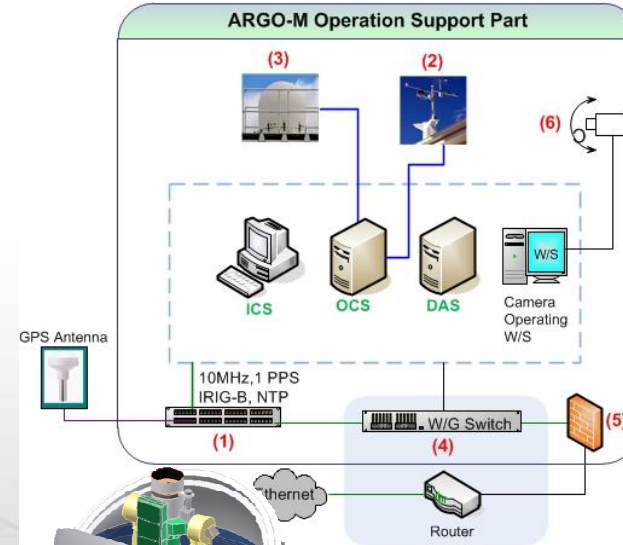
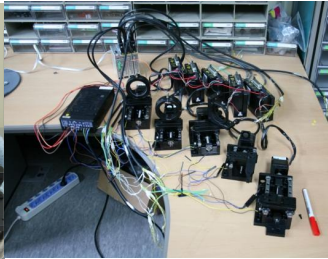
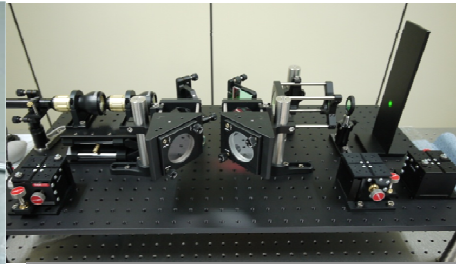
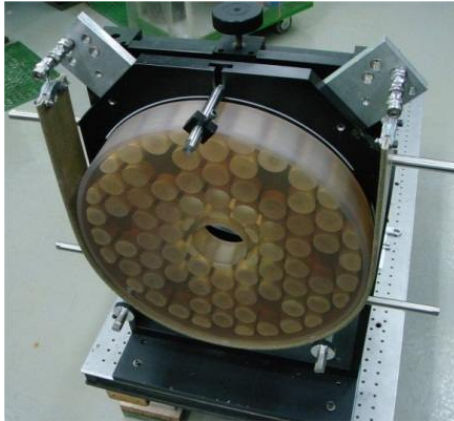
- ❑ ARGO: Accurate Ranging system for Geodetic Observation
 - The Name of Korean SLR program
- ❑ Period : **2008 – 2014 (7 years)**
- ❑ Final Goal
 - 40 cm Mobile SLR System, ARGO-M (2011)
 - 1 m class SLR System, ARGO-F (2014)
- ❑ Team members & Cooperation
 - KASI, KIMM, SatRec & Yonsei Univ.
 - ILRS, Graz, GSFC/UMBC, SHAO and etc.



ARGO - Milestone



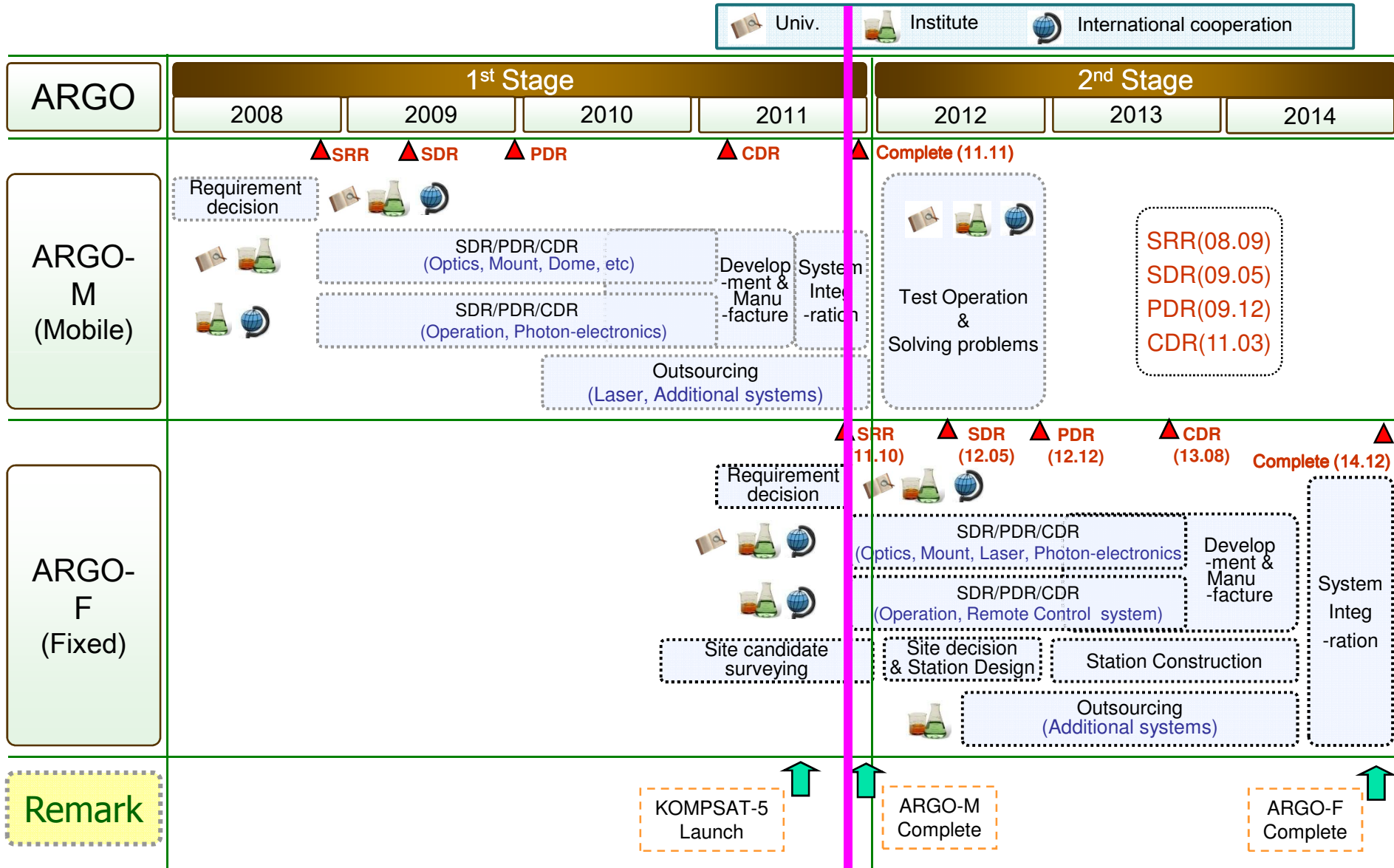
ARGO-M (OPS/TMS/OES/AOS/CDS Subsystems)



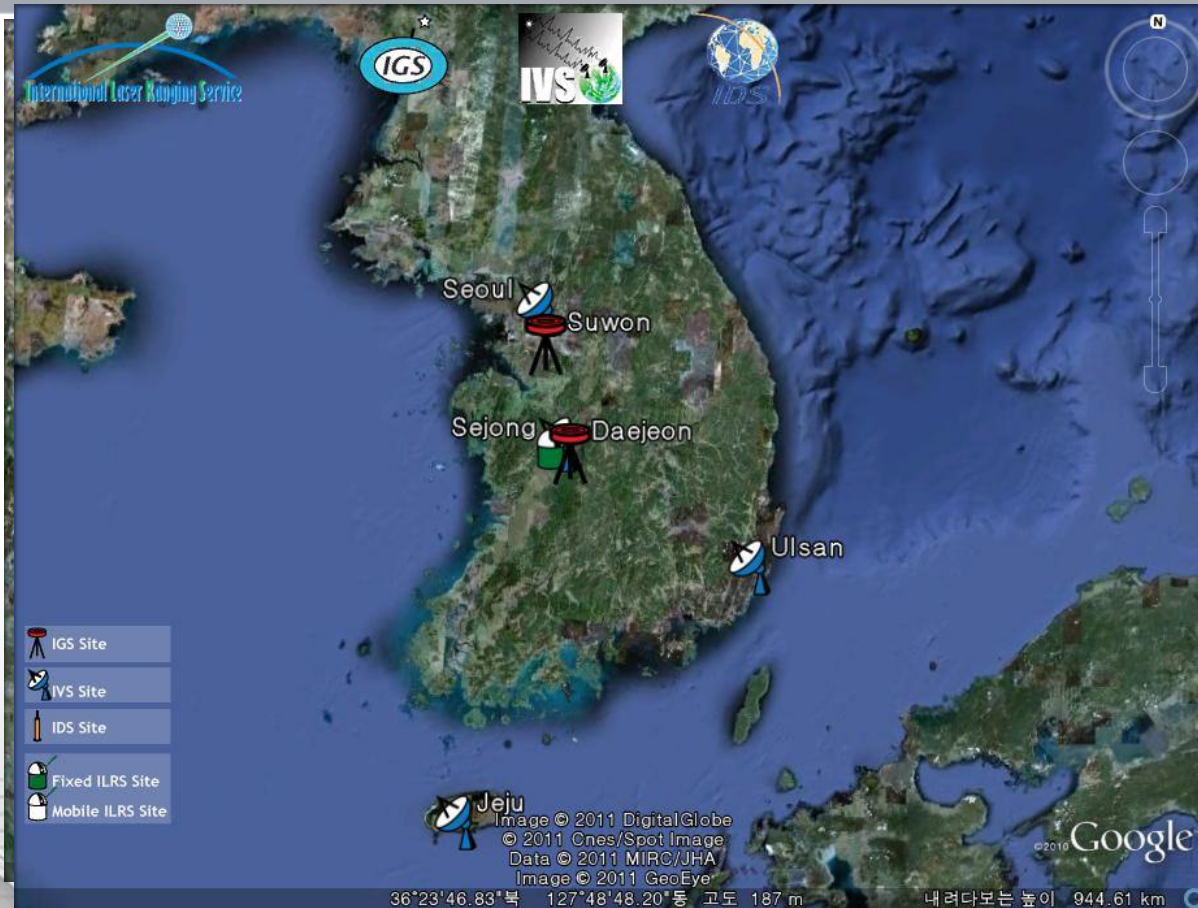
ARGO-M

- ❑ Status and Progress of Korean SLR Program, ARGO, *Hyung-Chul Lim et al.*
- ❑ Software Design and Development Status of ARGO-M Operation System, *Yoon-Kyung Seo et al.*
- ❑ Configuration of ARGO-M Optoelectronic Subsystem and its Performance Experiments, *Seung-Cheol Bang et al.*
- ❑ Container and Dome Development Status of Korean Mobile SLR System, *Sung-Yeol Yu et al.*
- ❑ A Preliminary Research of Precise Orbital and Geodetic Parameter Estimation System Using SLR Data, *Eunseo Park et al.*

Milestone of ARGO Program



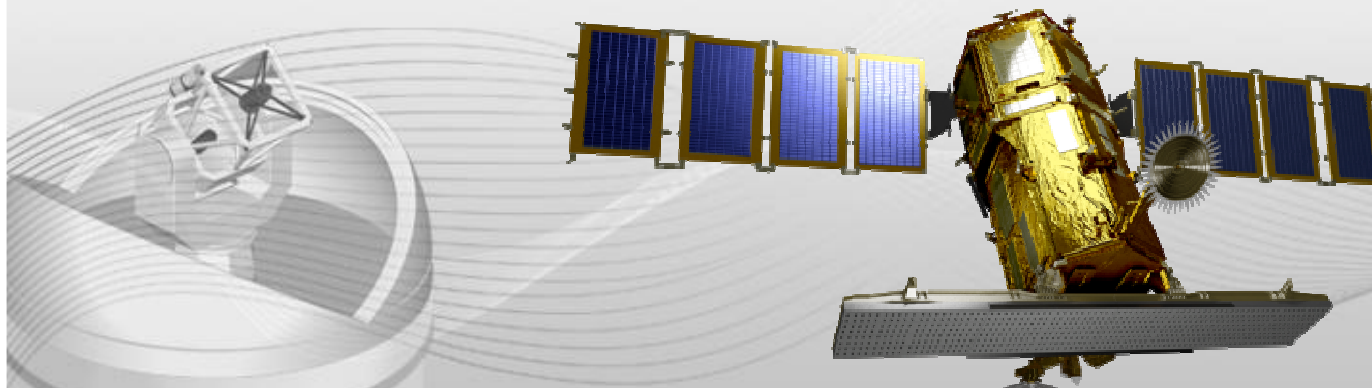
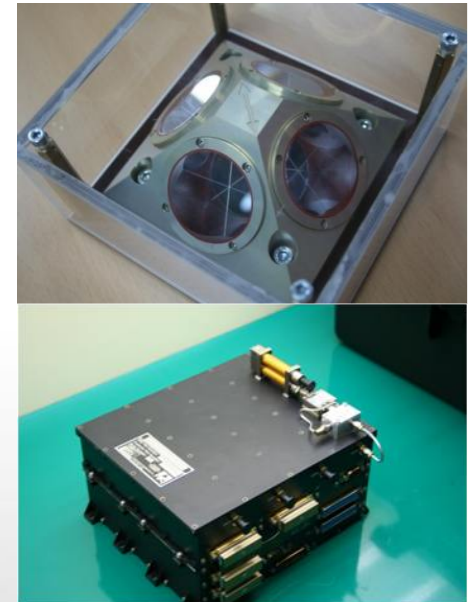
ARGO-F, Planned Location



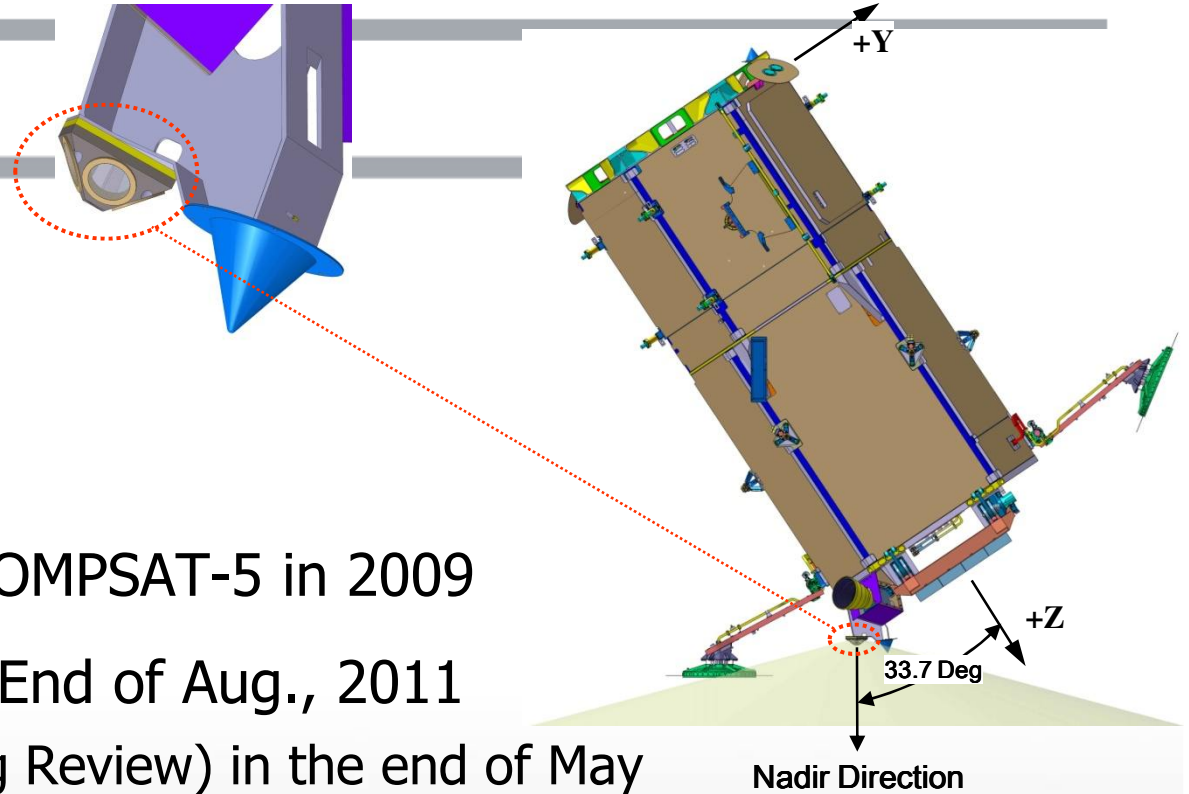
- ❑ Location : 36.47N/127.24E (Sejong City)
- ❑ Co-Location : 21m Geodetic VLBI & Multi GNSS (2012)
- ❑ Contributors : NGII/KASI

KOMPSAT-5

- ❑ KOMPSAT-5: KOrea Multi Purpose SATellite - 5
- ❑ Primary Mission : GOLDEN with SAR
 - GIS
 - Ocean & Land management
 - Disaster & ENvironment monitoring
- ❑ Secondary Mission : AOPOD with GPS & LRRRA
 - Atmospheric Occultation
 - Precise Orbit Determination



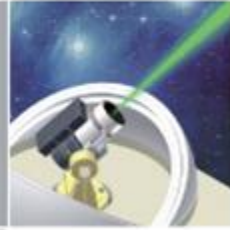
KOMPSAT-5



- ❑ Request form for KOMPSAT-5 in 2009
- ❑ Launch Campaign: End of Aug., 2011
 - PSR (Pre-Shipping Review) in the end of May
 - Dnepr booster at Yasny site
- ❑ Mission Orbit:
 - 550 km Sun-synchronous Orbit (Dawn-Dusk)
 - 14.5 orbits per day & 97.6 deg. Inclination

Future Plans

- ❑ Ground Network
 - Official Contributor with ARGO-M from 2012
 - Manufacturing the ARGO-F to 2014
- ❑ Space Missions
 - NARO-SAT (3rd STSAT-2) in 2012
 - KOMPSAT-5 following mission with LRRR
- ❑ Science & Technology
 - Reference Frame & EOP
 - Data Processing, Operating & Optoelectric subsystems
- ❑ ILRS
 - ILRS AAC in near future
 - ILRS workshop in 2014/2016



감사합니다

Thank you !