K-GMT Perspective on Collaboration with Subaru Telescope

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Subaru Users Meeting 2017, Mitaka, Japan, Jan 17-19, 2018
Center for Large Telescopes
(a.k.a. K-GMT Project Office)

- an official interface bet. KASI and GMTO
  (~30 people incl. researchers, engineers, supporting staffs, etc.)

K-GMT Management

K-GMT Optical Astronomical Technology Group

K-GMT Science Group (KGSG)
To Lead and Support the Development of Research Capability of the Community

KGSG Operations include:

- GMT SAC participation
- Joint Fellowship Program
- K-GMT Science Program
- K-GMT Science White Paper
- K-GMT Summer/Winter School
- International collaboration on scientific activities
- Etc.

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K-GMT Science Program

- Provides Korean community with access to large telescope/observing facilities
  - Phase I: 2009~2013
  - Phase II: 2014~
  - Open time to Korean community
  - MMT: 2014~ (thru collaboration w/ U of Arizona)
  - Gemini: 2015~ (thru LTP w/ Gemini/AURA)
  - IGRINS: @McD/DCT(2014~), @Gemini-South(2018A)
Acting as an interface bet. Korea and Observatories i.e. “virtual observatory”
Aim to expand the program to include GMT and to establish “K-GMT Observatory” system.
• Proposal Call:
  – 2 times per year (March, Sept)
  – Oversubscription rate ~ 3.0 (on average)
  – **About 100 programs were allocated from 2015 to 2018A**
K-GMT Science Program

• Research Topics (2015~2018A)

K-GMT SP Science Topics

- AGN: 30.5%
- Galactic: 23.2%
- high-z: 20.7%
- Nearby: 25.6%
K-GMT Science Program

• Instruments in Demand

K-GMT SP Gemini Instruments Used

- etc. 4.9%
- IGRINS 4.9%
- Flamingos 4.9%
- NIRI 4.9%
- GNIRS 3.7%
- GRACES 8.5%
- GMOS 64.6%
K-GMT Science Program

- IGRINS subscription from Gemini community
• Allocation in 2018A (Gemini)

2018A Gemini Allocation of Korean programs

- GNIRS: 4.7%
- NIFS: 8.3%
- IGRINS: 26.8%
- GMOS-S: 9.4%
- GMOS-N: 50.7%
K-GMT SP: Publications

• 42 papers in total (2014~)
  – Phase I (2009~2013) - AAT: 1, UKIRT:2 papers
  – Phase II (2014~ ) - CFHT: 3, MMT: 5, Gemini: 7 papers
  – IGRINS: 14+13 (KASI) papers
  – [link](http://kgmt.kasi.re.kr/kgmtscience/content/publication-science-program)
  – **Including 2 PhD thesis papers (as of 2018 Jan)**
  – Expecting more
K-GMT Science Program

• also supports students’ thesis programs
  – thru K-GMT TAC system
• Currently trying to expand Gemini+MMT user base in Korea
  – About 100 programs allocated from 2015
  – Including about 10 PhD thesis projects

• It also helps expand ‘prospect’ Subaru user base
  – How many Korean programs have been allocated with Subaru since 2000?
Collaborations w/ Subaru

Korea-Japan collaborations on various levels

• 2013 Contacted Subaru for possible future partnership
• 2014 Feb. Subaru Winter School in KASI
• 2015 Oct. Dr. Arimoto attended KAS meeting
• 2016-2017 Feb Subaru UM FY2015, FY2016
• 2017 Oct. Dr. Yoshida attended KAS meeting

• Next?
K-GMT SP in Future

• Gemini:
  – Plan to use in combination with ALMA, KMTNet, LSST, GMT
  – Will be a major component of future ‘K-GMT Observatory’

• MMT/Magellan:
  – Confirmed until 2018 based on collaborations w/ U of Arizona
  – Expand to initiate KASI-Arizona Joint Postdoctoral Fellowship (1st fellow started to work at U of Arizona in Sep 2017)

• Subaru?

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What type of Instrument do you need?

- Low R Opt Spectrograph
- High R Opt Spectrograph
- Low R IR Spectrograph
- High R IR Spectrograph
- IFU-type Spectrograph
- Wide FOV MOS
- Wide FOV Imager
- AO Imager
“K-GMT & Subaru Collaboration” network that can also lead to future GMT & TMT collaboration!
Thank you