

SUMMARY REPORT ON EAO INFRARED TELESCOPE

YONGQIANG YAO

National Astronomical Observatories, Chinese Academy of Sciences, Beijing, 100012, China

E-mail: yqyao@bao.ac.cn

(Received February 1, 2005; Accepted March 15, 2005)

ABSTRACT

The working group for an infrared telescope(IRT) toward East Asian Observatory has been set up in EAMA6. This report declares the membership of IRT working group, reviews briefly the activities of promoting the IRT, and puts forward the future plan.

Key words : EAMA WG — infrared telescope

I. INTRODUCTION

Recognizing the importance and future possibility of infrared observations in East Asian region, Purple Mountain Observatory and Nagoya University proposed to build an infrared telescope on a good observing site in China. This idea was recognized by PMO, NAOC and NAOJ and obtained ardent and serious response at EAMA4 in 2001. The 2~3 meter infrared telescope proposed should be operated and employed as East-Asian-cooperation based Observatory (EAO) by joint support from East-Asia countries and regions.

Many efforts have been made to promote the IRT project in the period between EAMA5 and EAMA6. EAMA6 proposed to discuss the concept and possibility to form East Asian Observatory(EAO), as final destination of EAMA. The working group for infrared telescope toward EAO (IRT-WG) has been announced as one of the standing working groups under EAMA steering committee. I am very pleased to announce here the membership of IRT-WG with Table 1. We IRT-WG will honorably contribute to the EA-IRT, in expectation of accomplishing IRT as one of the first facilities of EAO.

This report will briefly review the activities promoting the IRT and put forward the future plan.

Table 1.

The Members of IRT Working Group

Wenping Chen	NCU-Taiwan
Inwoo Han	KAO
Yan Li	NAOC-Yunnan
Soojong Pak	KAO
Shuji Sato	Nagoya Univ.
Yongqiang Yao	NAOC-Beijing
Michitoshi Yoshida	NAOJ-OAO

Proceedings of the 6th East Asian Meeting of Astronomy, held at Seoul National University, Korea, from October 18-22, 2004.

II. THE IRT PROMOTION

The activities promoting the IRT project are listed in Table 2. Three workshops were organized for the IRT in 2002. The workshop *Infrared astronomy and medium-size infrared telescope* in Beijing reviewed observational objectives and requirements in the East-Asia region, and produced three working groups for IRT responsible for promoting in aspects of science and instruments, site, and telescope. The two IRT workshops in Nanjing further made certain the schemes of site survey and telescope design.

The document of IRT proposal was set about to prepare in October 2002, and a pamphlet for IRT project was published in 2003 November. The collaborative IRT project, the telescope design and preliminary result of site survey, was announced in the ASJ spring meeting in March 2003, and in Chinese side the proposal for IRT was submitted to CAS as an international cooperation program.

III. THE IRT EXPERIMENT

(a) Construction of a Prototype Telescope

The practice experiments for IRT have made progress in telescope construction and site testing. A prototype telescope mount was built up in August 2003 in Nagoya University(Fig. 1), and the related examination and test were finished in November. The Alt-Azimuth mount, employing truss structure and Ring-guide rail, takes advantages of ultra-light weight and very low cost. The test and in 15 min.

(b) Site Testing in Western China

The records of site survey for IRT are composed of Xinjiang in Oct. 2001, Qinghai in May 2002, and Tibet in August 2003. The instrumentation was also put in practice in PMO and Nagoya University for the DIMM, cloud and water-vapor monitors. Fig. 2 presents a new candidate site for IRT in Taxkorgan, Xinjiang, which has much better weather conditions than the Kuixian site in Tianshan mountain as previously considered.

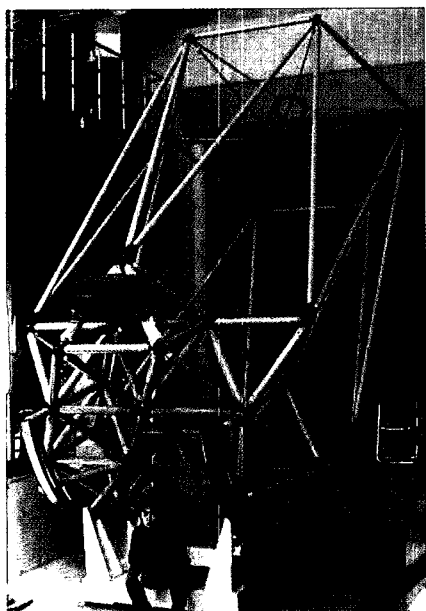


Fig. 1.— The prototype telescope mount constructed in Nagoya Univ.

The new site, so-called Kurmai, has 4500m altitude and is only 13km from the well-paved national highway, and about 200km from Kashi city.

Table 2.

Memorabilia of IRT Promotion

2001/04	notion of IRT for IR obs. in Asian region
2001/06	IRT concept and special forum, Nanjing
2001/08	design and promotion strategy, Nagoya
2001/09	an IRT WG built up in PMO
2001/10	site survey for IRT, Lijiang in Yunnan and Kuixian-daban in Xinjiang
2001/11	IRT announcement and discussion in EAMA5, Taipei
2002/03	workshop on medium-size IRT, Beijing
2002/05	site survey for IRT: Delingha, Lenghu, and Xitianshan in Qinghai
2002/06	workshop on site survey for IRT, Nanjing
2002/07	IRT promotion strategy, Tokyo
2002/09	workshop for IRT: telescope design and manufacture, Nanjing
2002/10	document proposal for IRT
2002/11	webpage of EAO-IRT, Nagoya; pamphlet of IRT project
2003/02	IRT promotion strategy, NAOC, Beijing
2003/03	IRT report in ASJ meeting, Nagoya; IRT proposal to CAS, Nanjing
2003/08	IRT mount built-up, drive&control test; seeing measurements in Tibet
2003/11	IRT mount new technology, testing results; and site testing for IRT, Beijing
2004/07	IRT experiment report in Lhasa conference
2004/08	IRT webpage closed
2004/10	EAMA6 in Seoul, IRT-WG established

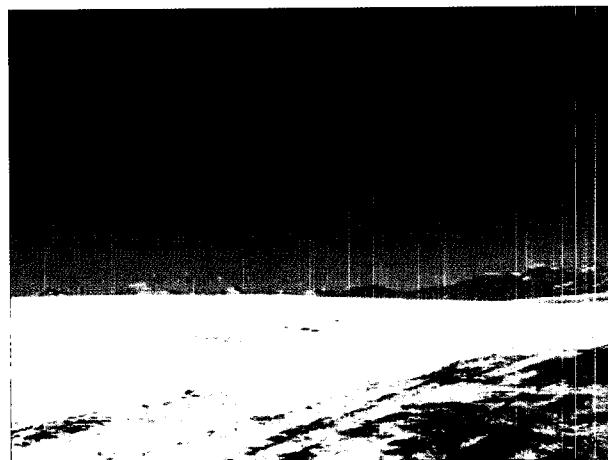


Fig. 2.— The candidate site for IRT, so-called Kurmai(4500m) in Taxkorgan.

IV. THE FUTURE PLAN

There are many immediate works for IRT-WG to promote the project effectively, though we have made so much effort for the IRT. At present, we would suggest to circulate first within IRT-WG any questions, suggestions, and contributions, and submit a status report and a proposal to the steering committee (EAMA-SC).

We may have to make review with the EAO-IRT concept, (1) the current status of IRT research, as well as local teams, (2) the significance and scientific targets and IRT configuring instruments, (3) the IRT design and manufacture plan, (4) the site for IRT and the infrastructure, and (5) the road map of IRT and possible funds in each regions.

As shown in Table 3, the IRT-WG expects to resolve the organization and fund for IRT within this half year.

Table 3.

The Working Schedule of IRT-WG

2005/01-03	IRT review and discussion
2005/04	IRT-WG meeting in Beijing
2005/05	status report of IRT to EAMA-SC
2005/06	strategy of IRT promotion; negotiation and agreement among regions
2005/07	proposal and funds, with director-class institute-board & EAMA-SC coordination; the schedule for IRT construction

ACKNOWLEDGEMENTS

I wish to thank the SOC and LOC for organizing the nice EAMA6 meeting. I also acknowledge the members of IRT working group for the intensive and constructive discussion.