# Transient Objects Monitoring (TOM) Project Introduction

#### TOM Project Team National Astronomical Observatories

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# What is TOM project

TOM project : Transient Objects Monitoring (TOM) project
To build a set of optical telescope system, data processing tools and scientific research system at the best site in the world
Improve research level of Chinese scientists in this field
TOM Project could support TOM project agreement implementation with scientific infrastructure and research achievement

Strengthen astronomical cooperation foundation between UCH and NAOC

TOM Project could provide strong experience for the subsequent astronomical projects

**Promote** scientific cooperation between China and Chile.

## **Scientific Objective of TOM**

#### Space Debris

•Space Debris Distribution Model

- Astromechanics research
- •Impact on Long-Term Sustainability of Space Activities

#### Near Earth Asteroid

- •Search and Track Potentially Hazardous Asteroids
- •Research NEA Characteristics
- •International Asteroid Warning Network

#### Time domain Astronomy

Supernova discovery and light curve Gamma burst optical afterglow Electromagnetic counterparts of gravitational wave events Active galactic nuclei and tidal disruption events Stellar flare and periodic light variation Optical counterpart tracking of fast radio bursts

# **TOM Project Overall layout**



## **Specification of TOM-ME**

#### **One 2.5-meter Telescope**

 $\bullet \mathsf{FOV}: 1.4^\circ{\times}1.4^\circ$ 

•Detector: 6kx6k



## **Specification of TOM-ME**

**Two 1.2-meter telescopes** 

FOV : 2.3°×2.3°Detector: 6kx6k





## **Specification of TOM-ME**

#### Telescope Array (100 36cm telescopes)

•FOV : 2.67°×2.67° •Detector: 4kx4k



## **The TOM-ME design**



# **TOM-OS design**





Thank you!