



**UNITED NATIONS OFFICE  
FOR OUTER SPACE AFFAIRS**





# Keldysh Institute of Applied Mathematics Russian Academy of Sciences

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**M. V. Keldysh**

**About Institute**

**Administration**

**Fields of research**

**Publications**

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### Brief information

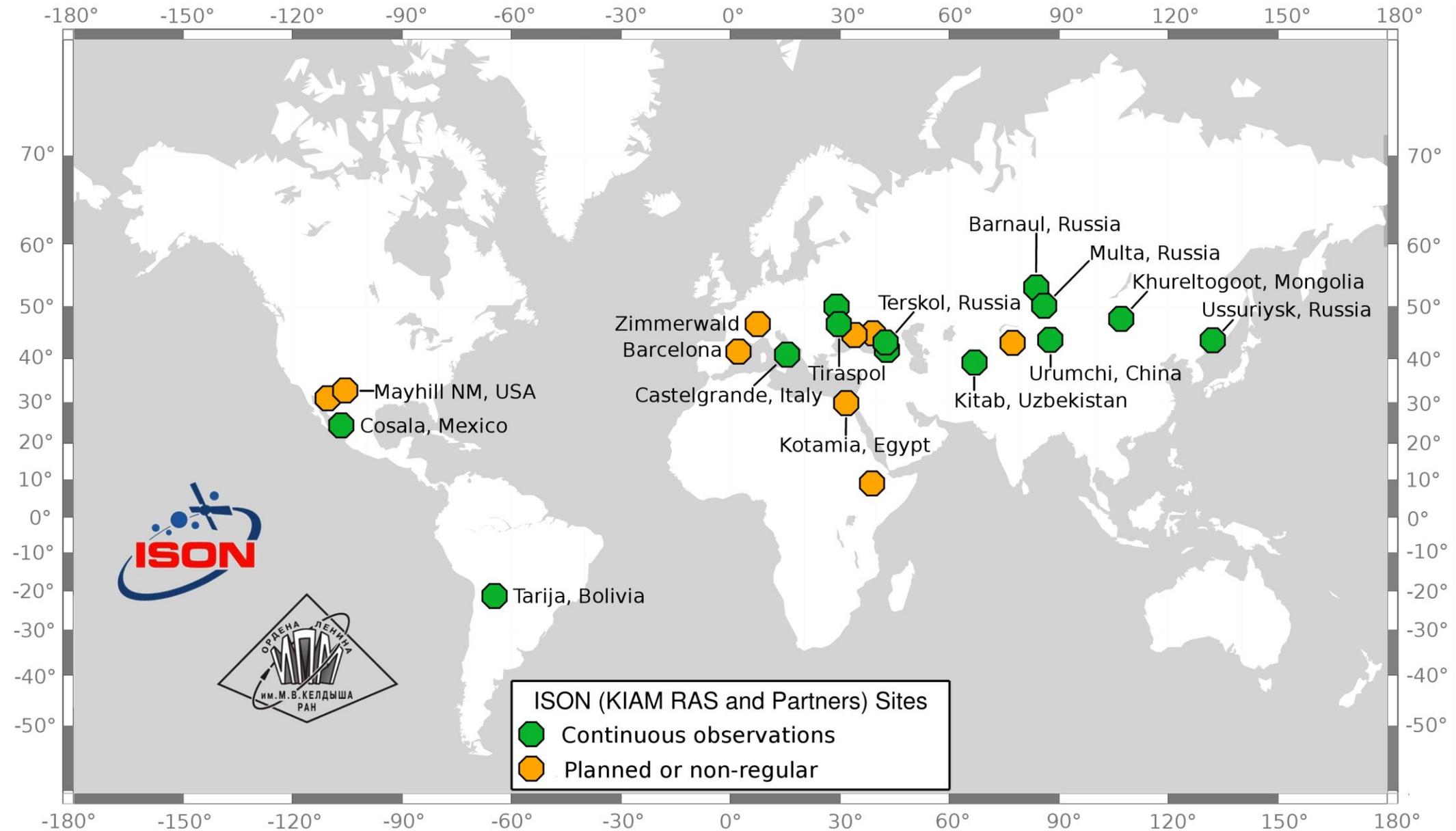
Keldysh Institute of Applied Mathematics (Russian Academy of Sciences) was founded in 1953 to solve complex mathematical problems involved in national projects of space exploration, atomic and thermonuclear energy application, etc. This goal was meant to be achieved by developing and using appropriate computer hardware and software facilities. The Institute founder and first director (1953-1978) was President of the USSR Academy of Sciences Mstislav Keldysh. Since its first years the Institute activity oriented to solving large scale applied problems is based on the results of fundamental scientific research in mathematics, mechanics, cybernetics, informatics, etc.

[More information](#)

# INTERNATIONAL SCIENTIFIC OPTICAL NETWORK (ISON)

- ISON is an initiative coordinated by Keldysh Institute of Applied Mathematics of the Russian Academy of Sciences (KIAM RAS).
- Main observational targets: space debris, asteroids, gamma-ray burst afterglows.
- KIAM RAS maintains the database of space objects based on ISON's observational data.

# ISON/KIAM RAS OPTICAL TELESCOPE NETWORK



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# SPECIFICATIONS OF PROVIDED EQUIPMENT

- Telescope optical tube: reflector, aperture from 20 cm to 35 cm, a field of view from  $2^{\circ} \times 2^{\circ}$  to  $4^{\circ} \times 4^{\circ}$  with no significant aberrations in CCD/CMOS images.
- CCD/CMOS camera: monochrome, ASCOM compatible, 50 mm minimum sensor diagonal, 2048 x 2048 pixels minimum sensor size, cooling at least  $30^{\circ}\text{C}$  below ambient, PPS time synchronization, frame read time no more than 6 seconds.
- Telescope mount: equatorial, ASCOM compatible, not less than  $1^{\circ}/\text{sec}$  slewing speed for each axis, not less than 100 arcsec/sec maximum supported tracking speed for each axis.
- Motorized focuser: ASCOM compatible.

# ISON WIDE FIELD OF VIEW TELESCOPE



# ISON OBSERVATIONAL ACTIVITIES

- Optical astrometric observations of objects in GEO and HEO
- Monitoring of events in GEO
- Photometric studies of objects in LEO/MEO/GEO/HEO
- Cataloguing objects in GEO and HEO, maintaining their database
- Asteroid observations: 11 telescopes at 9 sites have participated in observation campaigns of 59 asteroids and 10 comets throughout 2019—2020

