ISON capability to monitoring the Near-Earth asteroids

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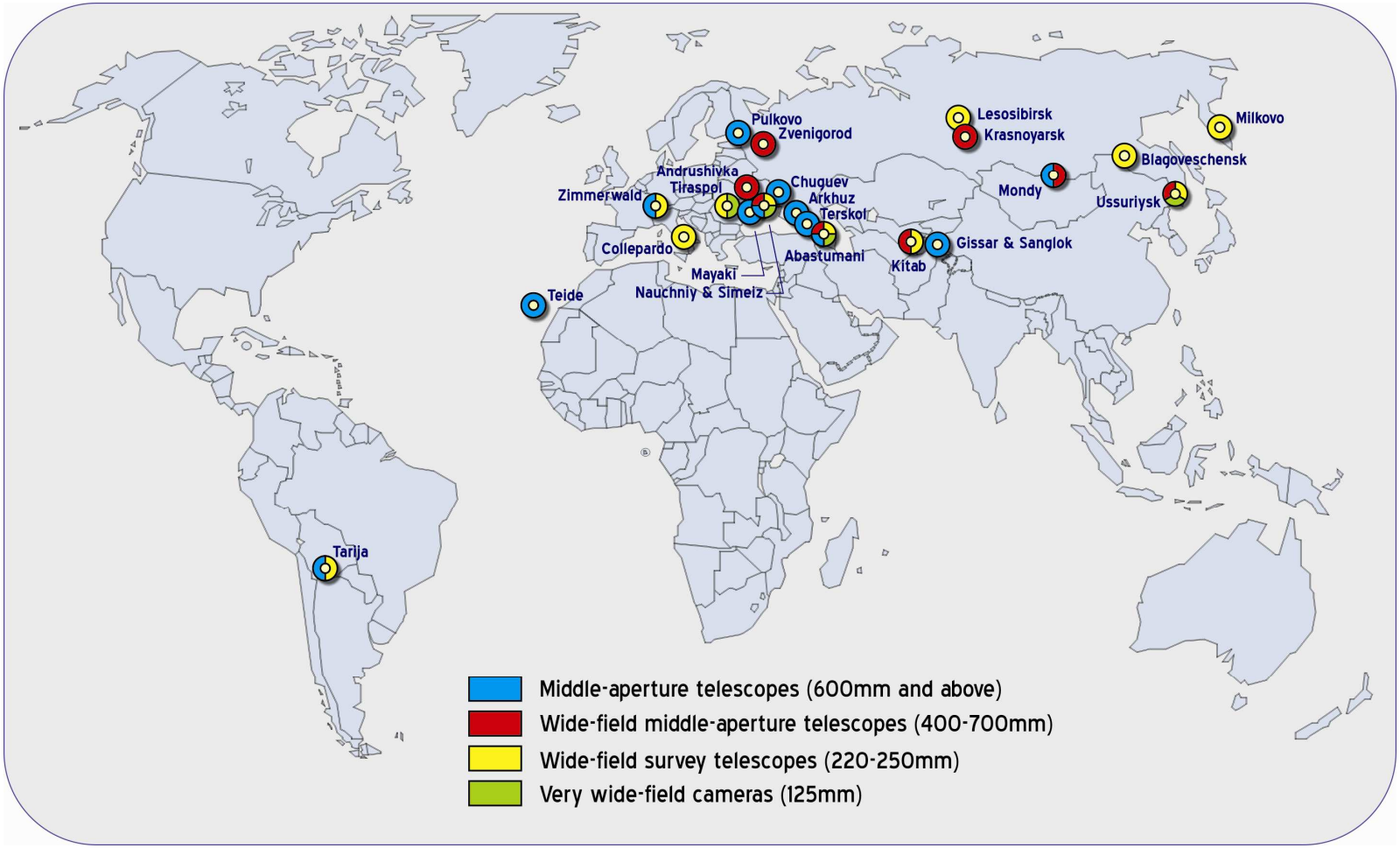
What is ISON?

International scientific optical network (ISON) is now one of the largest observation systems and it's just one of two such systems in the world capable to observe the sky globally from both – Eastern and Western - hemispheres.

What is ISON?

At present, we have more than 20 observatories in 10 countries - Russia, Bolivia, Georgia, Italy, Moldova, Tajikistan, Ukraine, Uzbekistan, Switzerland and Spain. This observatories participate in coordinated observation program under the ISON project.

ISON in the World



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Our mission

From 2009 ISON interested in asteroid work. We can use our telescopes in 3 main areas:

1. **Search** for new asteroids
2. **Follow-up** new NEOs and comets
3. Asteroids and comets **photometry**

Our telescopes

We have several medium-aperture telescopes with large field of view.

This telescopes have FOV from 1 to 2.3 degree and magnitude limit around 21m – comparable whis magnitude limit of LINEAR and Mt. Lemmon surveys.

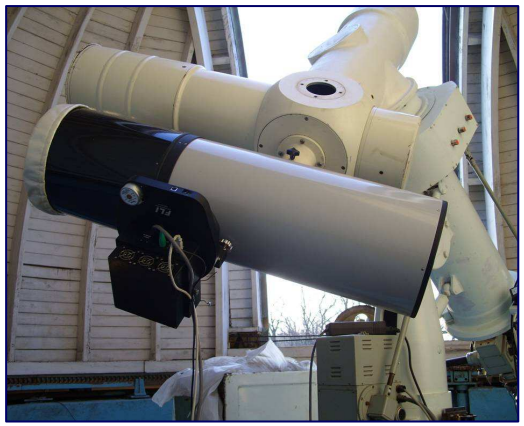
Our telescopes

Our telescopes

Telescope	Aperture, mm	Observatories	CCD	FOV, deg.
ORI-40	400	Krasnojarsk; Kitab	3kx3k, 12	2,3
ORI-50	500	Ussuriysk	3kx3k, 12	1,8
GAS-500	500	Zvenigorod	3kx3k, 12	1,7
S-600	600	Andrushivka	3kx3k, 12	2
AT-64	640	Nauchniy-1	4kx4k, 9	2,3
AS-32	700	Abastumani	2kx2k, 24	1,5
AZT-14	480	Mondy	2kx2k, 24	1,3

Our telescopes

Another subsystem of our network – small aperture telescopes (up to 5.5º)and cameras with extremely large FOV (up to 12.3º).

Our telescopes

Telescope	Aperture, mm	Observatories	CCD	FOV, deg.
VT-15e	125	Tiraspol; Ussuriysk	3kx3k, 12	12,3
RST-220	220	Nauchniy-1,2; Pulkovo	3kx3k, 12	4,17
		Tiraspol	4kx4k, 9	2,7
ORI-22	220	Abastumani; Lesosibirsk;	3kx3k, 12	4
		Milkovo; Collepardo;		
		Blagoveschensk		
		Ussuriysk; Kitab	2kx2k, 24	5,5
ORI-25	250	Tarija; Artem	3kx3k, 12	4
GAS-250	250	Ussuriysk	3kx3k, 12	2,8

Our telescopes

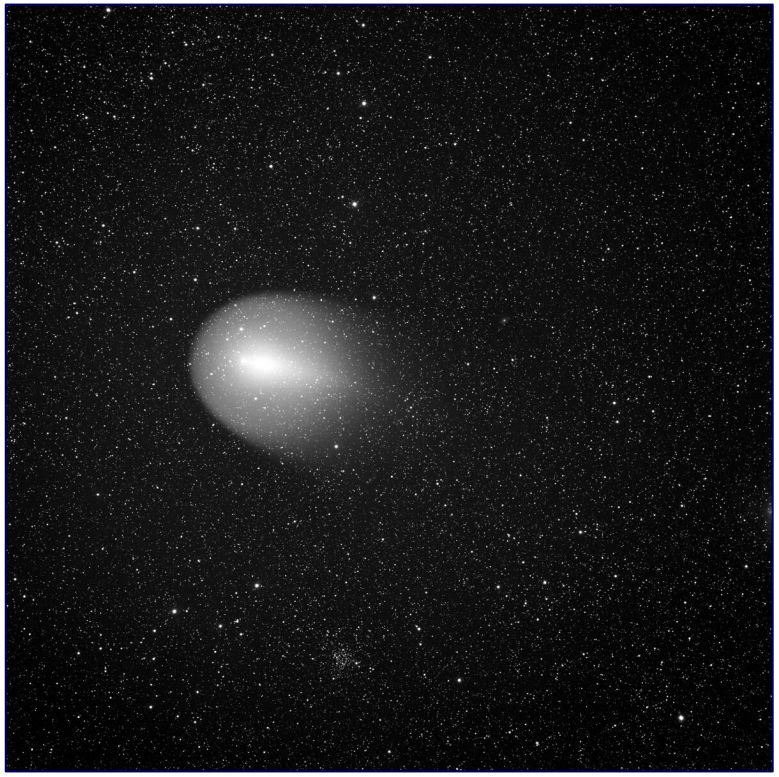
This telescopes will be use for searching new brightness objects (m<19m), including dense fields located near with Milky way.

Professional surveys avoid this areas.

And several recently comets was discovered by amateurs exactly in such fields. For example P/2009 L2 (Yang-Gao).

Our telescopes

Images from VT-15e camera with extremely large FOV (**12.3º**)



Our telescopes

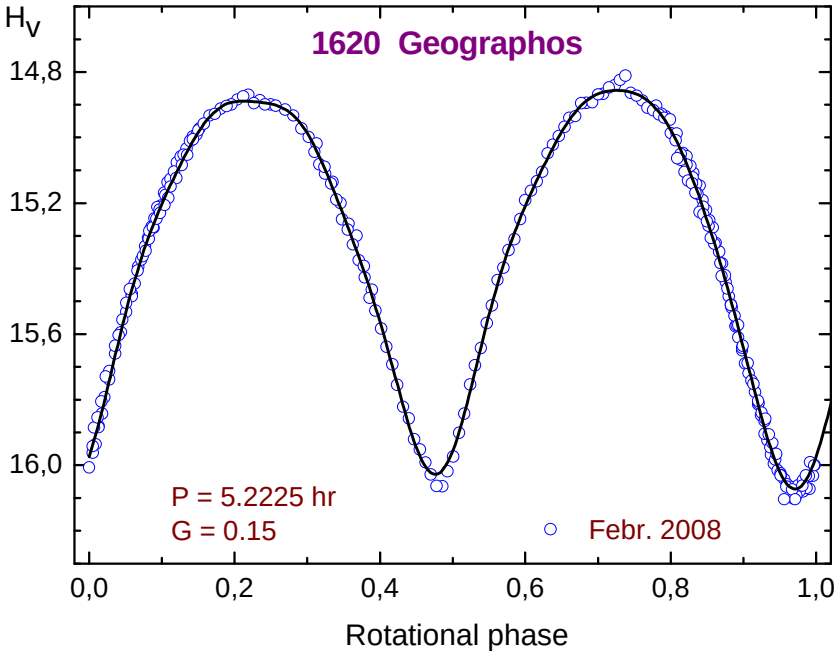
Also we can have subsystem for coordinate follow-up recently discovered NEOs or another interesting objects, like comets or distant asteroids.

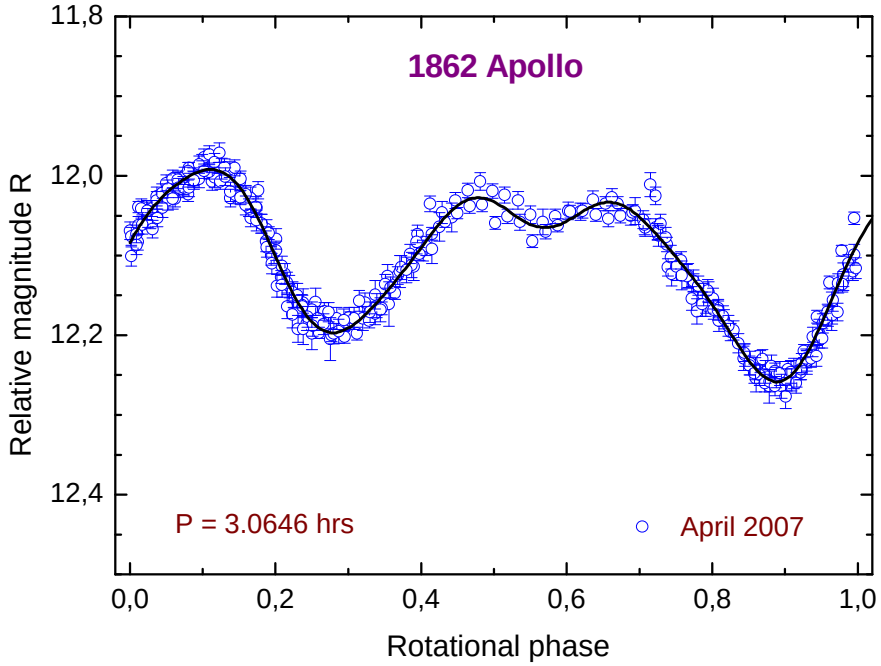
Telescopes of this subsystem have aperture from 220 to 250 mm and medium field of view. At this moment we order 10 new telescopes for this subsystem.

Our telescopes

And the last subgroup – medium aperture telescopes (600-800mm) with small FOV uses for photometry study of minor bodies of Solar system. This work already start in Chuguev, Simeiz, Evpatoria, Mayaki (Ukraine) and Gissar (Tajikistan).

Photometry


H_V
1620 Geographos
14,8
15,2
15,6
16,0
P = 5.2225 hr
G = 0.15
Febr. 2008
0,0
0,2
0,4
0,6
0,8
1,0
Rotational phase


1862 Apollo
Relative magnitude R
11,8
12,0
12,2
12,4
P = 3.0646 hrs
April 2007
0,0
0,2
0,4
0,6
0,8
1,0
Rotational phase

Current status

At this time we make observations for obtain the MPC codes for our new observatories located near Ussuriysk, Krasnoyarsk, Milkovo, Tiraspol, Blagoveschensk, Artem, Lesosibirsk.

Current status

Andrushivka, November 5-8

On November 2009 our network will conduct conference about observation of minor bodies of Solar system by members of ISON project.

Collaboration

We ready to collaboration with Russian and international projects.

Our proposal already send to Institute of Astronomy RAS (INASAN).

If you interested to use **ISON** for various asteroid programs – write to us!

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Thank you!