



Dr. Tim Spahr  
IAWN Manager

Belo Horizonte, August 9th 2019

Dear Tim,

on behalf of SONEAR Observatory (Southern Observatory for Near Earth Asteroids Research) Observatory, IAU code Y00 an amateur observatory in Brazil, I am much pleased to inform you of our intention to join the International Asteroid Warning Network (IAWN) as a contribution to performing NEO discoveries, NEO confirmation page follow-up, NEO recoveries. We also do public outreach about NEOs and other small Solar System bodies. The IAWN Statement of Intent has been read and is in line with our actions, as we understand the obligations of IAWN members.

SONEAR has been operating since 2013 and discovered 7 comets, 32 NEOs (8 PHAs), most of them were found in the southern hemisphere sky. The discoveries highlights are 2019 OK (H=23.3, 71.000 km close approach), 2016 QA2 (H=25.1, 84.000 km close approach), 2015 BL311 (H=21 - PHA for Mercury, Venus, Earth, and Mars – using PHA criteria), 2017 NT5 (H=22.9 -Virtual Impactor – Sentry) and 2018 HW1 (H=25.8 -Virtual Impactor – Sentry).


Equipment summary:

Telescope	Scale "/pixel	Field degrees	Limiting magnitude	Strategy	Speed detection limits (degrees/day)	NEO discoveries	Comet discoveries
450mm f/2.9	1.44	1.65 x 1.65	19.5	Faint and slow NEOs	0.2 to 10	13	6
280mm f/2/2	3.00	3.43 x 3.45	16.0	Bright and fast NEOs	1 to 900	19	1

The team is composed by the following amateur astronomers: Cristóvão Jacques, Eduardo Pimentel, and João Ribeiro de Barros. The observatory is remotely controlled from Belo Horizonte, in a 150 km distance from the site (Oliveira), but João Ribeiro lives beside the observatory in order to do minor maintenance whenever is necessary. We use software developed by Dr. Paulo Holvorcem for planning and scheduling observations (TAO). Our pipeline moving detection routine is the software Skysift also developed by him. This software has been adapted by Paulo to search for transients, so we can also detect very slow NEOs and comets.

In our NEO search routine, we detected many unidentified artificial satellites and they are listed at the MPC site in The Distant Artificial Satellites Observation Page or at Project Pluto Bill Gray's Page. We also participate with BRAMON (Brazilian Meteor Observation Network) of two meteor showers discoveries (Epsilon Gnuids and August Caelids).

Regards,



Cristóvão Jacques

SONEAR Observatory

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