

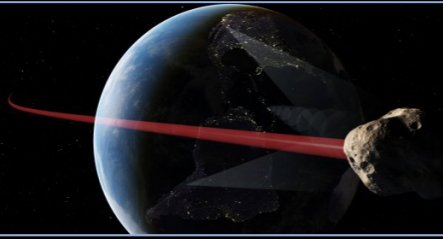
10th anniversary approaches... Chelyabinsk Impact, Feb. 15, 2013



- A ~20-meter (60-foot) asteroid entered the atmosphere at about 19 km/s (12 mi/s)
- The event released about 500 kt of energy, producing a large shock wave

10th anniversary approaches... Chelyabinsk Impact, Feb. 15, 2013

- On the same day as the Chelyabinsk impact, the United Nations Committee on Peaceful Uses of Outer Space Working Group on Near-Earth Objects was meeting in Vienna to finalize a recommendation to the U.N. on how to defend Earth from possible asteroid impacts
- One result of this meeting was an endorsement by the U.N. General Assembly for the establishment of
 - an **International Asteroid Warning Network (IAWN)** for worldwide collaboration on the detection and tracking of potential impact hazards and;
 - a **Space Missions Planning Advisory Group (SMPAG)** as a forum for the national space agencies to collaborate on plans for preventing any possible asteroid impact
- In January 2014, the IAWN steering committee held its first meeting, and SMPAG met for the first time later that year



International
Asteroid
Warning
Network

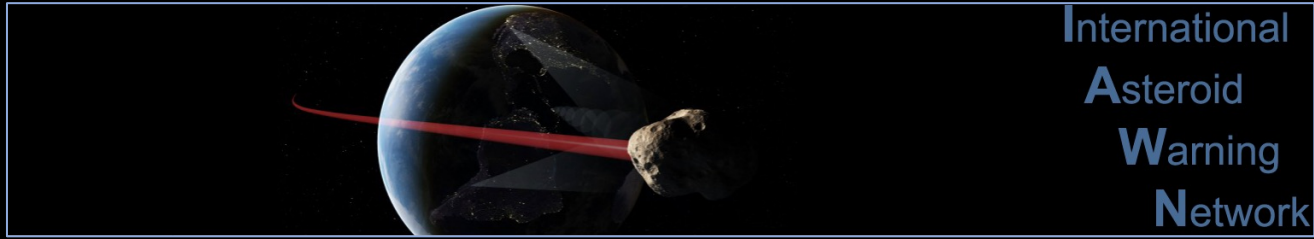
International Asteroid Warning Network (IAWN)

A worldwide collaboration of asteroid
observers and modelers that was
recommended by the United Nations

**Currently 50 signatories from
over 20 countries**
February 2023

For details and for and IAWN observing
campaign information, see:
<https://iawn.net/>

Southern Observatory for Near Earth Asteroids Research
Golden Ears Observatory U55
Spaceguard Consulting
San Pedro de Atacama Celestial Explorations W94 W95
Chinese National Space Administration
Xingming Observatory (IAU Code C42/N88/N89)
University of Narino
Mobil Astronomical Robotics Genon Observatory
Visnjan Observatory
European Space Agency
European Southern Observatory
Observatoire de la Côte d'Azur
NOAK Observatory L02
Israel Space Agency
Agenzia Spaziale Italiana
Blessed Hermann Observatory L73
Fondazione GAL Hassin
Grupo Astrofili Montelupo (Gr.A.M.) "Beppe Forti" K83
G.V. Schiaparelli 204
K63 G. Pascioli Observatory
Sormano Observatory,
Korean Astronomy and Space Sciences Institute
Baldone Observatory 069
National Institute of Astrophysics, Optics, and Electronics, Mexico
6ROADS Company
Astronomical Institute of the Romanian Academy
Crimean Astrophysical Observatory
Russian Academy of Sciences, Institute of Astronomy
Institute of Solar-Terrestrial Physics, Russian Academy of Sciences
Kourouka Astronomical Observatory, Ural Federal University
Keldysh Institute of Applied Mathematics, Russian Academy of Sciences
Special Astrophysical Observatory, Russian Academy of Sciences
The Paus B49 Observatory
Insituto de Astrofísica de Canarias
Observatorio J87 La Cañada
Peter Birtwhistle, Great Shefford Observatory
David Briggs, Hampshire Astronomical Group
Northolt Branch Observatories
Farpoint Observatory H36
National Aeronautics and Space Administration
Squirrel Valley Observatory W34
Patrick Wiggins, Tooele Observatory
Zwicky Transient Facility, Caltech



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For details on applying for membership in IAWN, see:
<https://iawn.net/about/members.shtml>

2005 LW3

$a = 1.4 \text{ au}$

$e = 0.5$

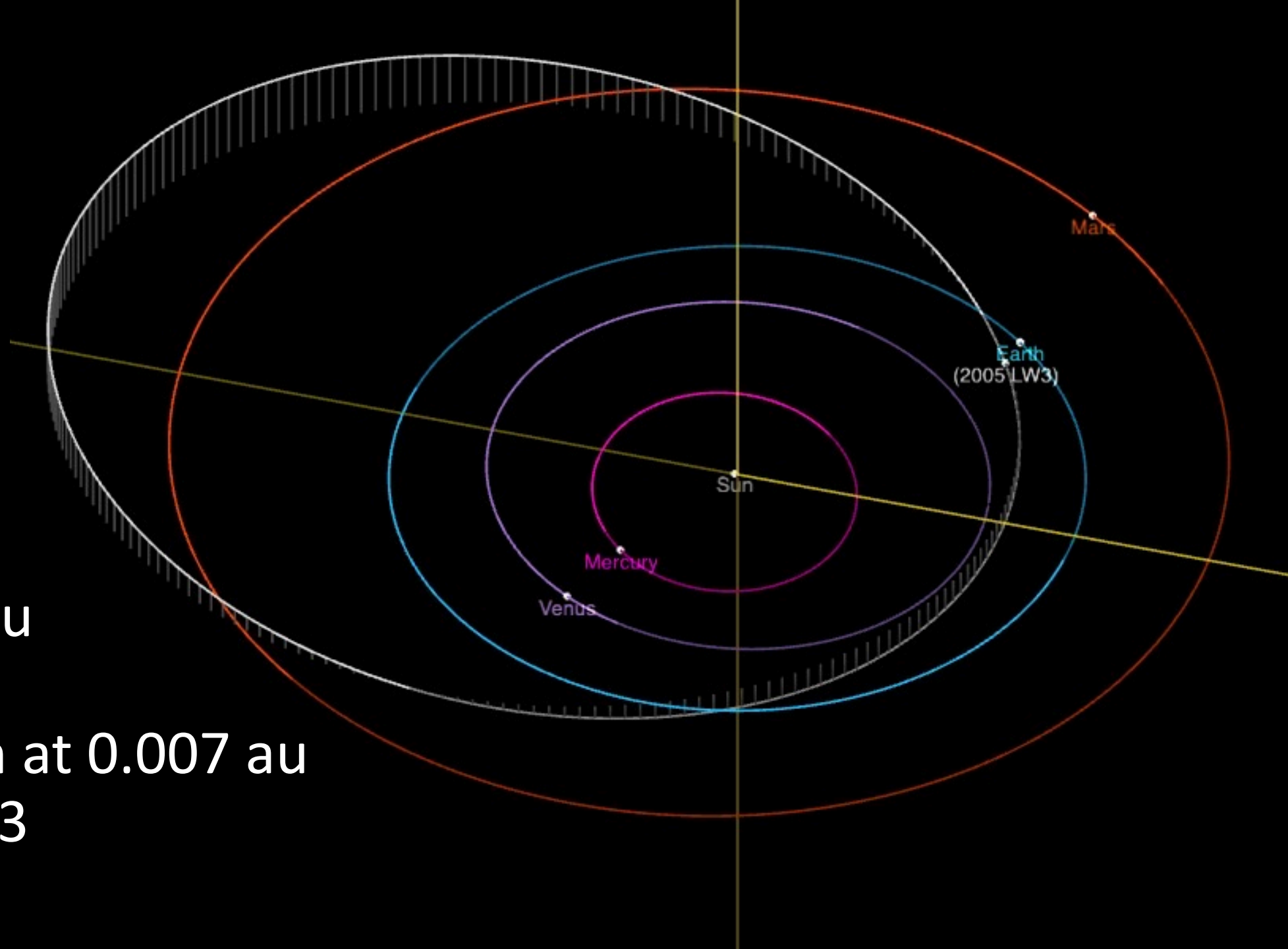
$i = 6 \text{ deg}$

$H = 21.6$

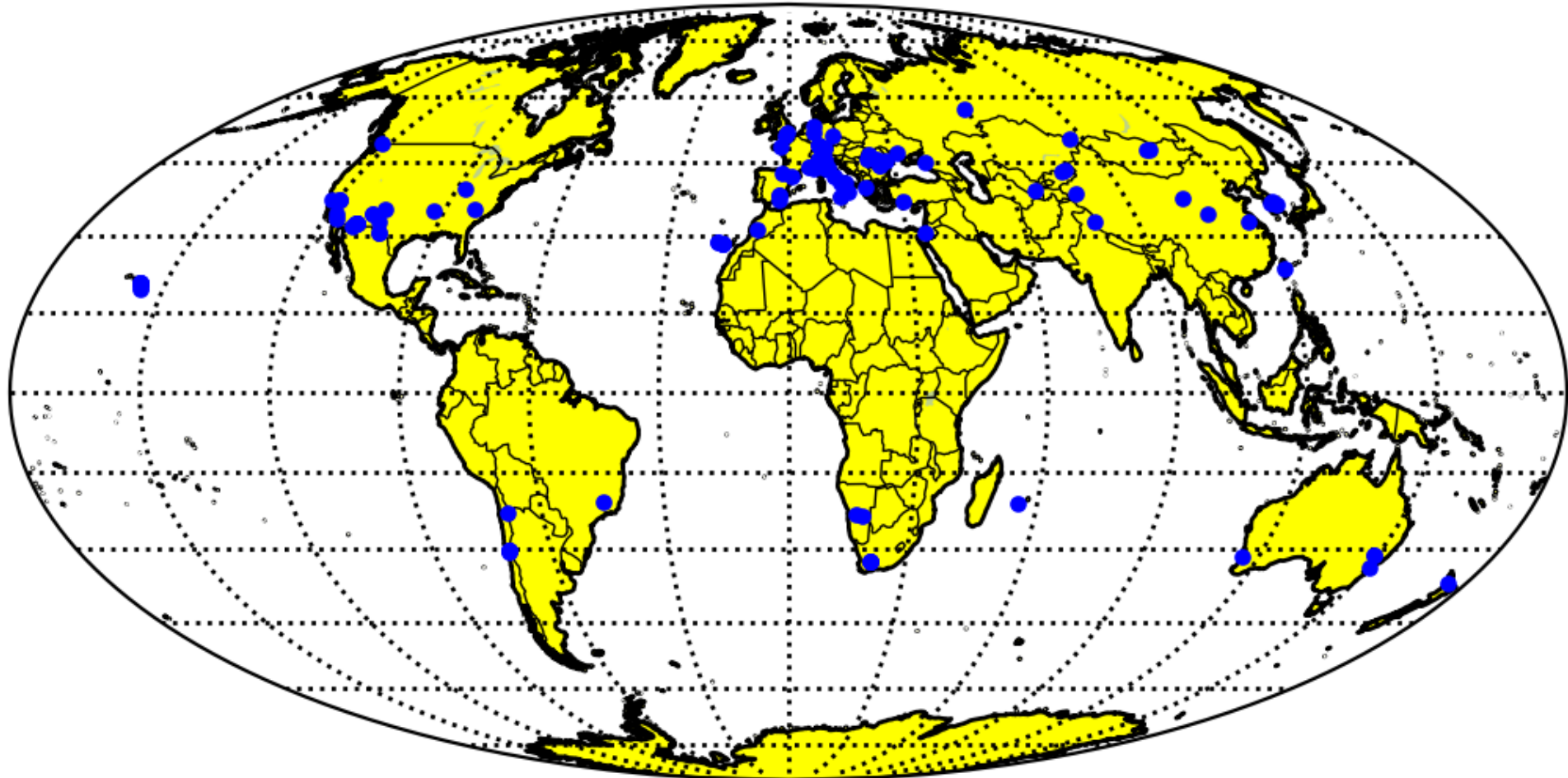
MOID 0.0009 au

Close approach at 0.007 au

on 2022 Nov. 23



1046 observations from 82 participating stations



Conclusions

- Broad and increased participation by the community
- No overall improvement compared to the past campaign: timing biases and optimistic uncertainties persist
- Individual reports to be sent, potential availability for individual feedback
- Two oral presentations (Timing: Davide; IAWN Campaigns: Mike Kelley) at Planetary Defense Conference.
- Planning on a short notice full campaign middle of the year.

Planetary Defense Conference 2023 Exercise

- Discussed preparation of exercise input from IAWN
- Text notification structure as well as brief background for the targeted audience will likely be included

Backup

UN Office of Outer Space Affairs Committee on Peaceful Uses of Outer Space

Overview for NEO Threat Response



United Nations
COPUOS/OOSA

*Inform in case of
credible threat*

Parent Government Delegates

Determine Impact time,
location and severity

International Asteroid
Warning Network
(IAWN)
www.iawn.net

Coordinated
by NASA

Observers, analysts, modelers...

Potential deflection
mission plans

Space Missions Planning
Advisory Group
(SMPAG)
www.smpag.net

Chaired
by ESA

Space agencies and offices

