

# ESA status IAWN

18 Oct 2018

Detlef Koschny  
Rüdiger Jehn  
Gunther Sessler  
Udo Kugel



# Telescopes

## □ 56-cm Test-Bed Telescope

- #01 operational at Cebreros, Spain – used for s/w tests
- #02: Infrastructure deployment has started, telescope installation early 2019. First light expected spring 2019

## □ 1.2-m Flyeye telescope

- Issues with initial camera development – new development initiated
- First telescope will go to Sicily, Mt. Mufara
- Tasking and data processing s/w under development

## □ Fireball monitor

- Space-based camera to observe fireballs
- Invitation to Tender for Engineering Model is open



# Software

## ❑ NEODyS Orbit Determination

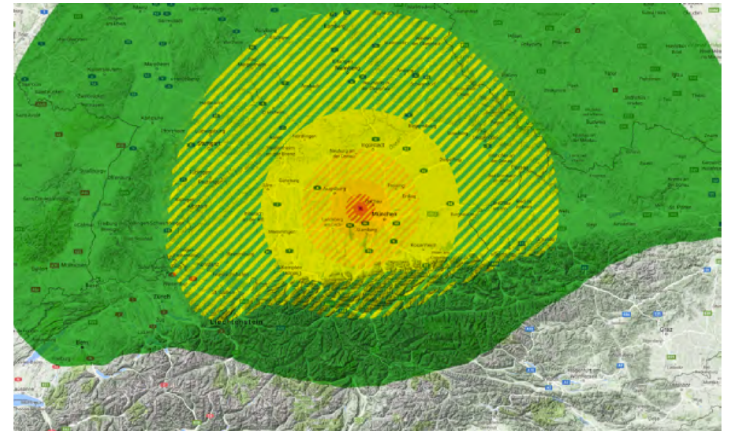
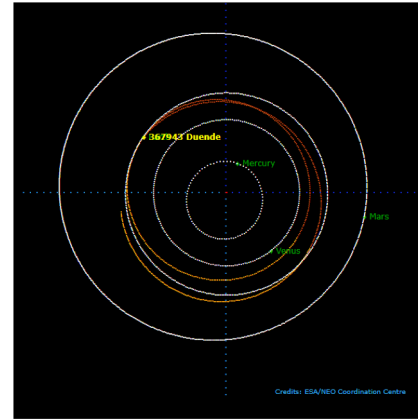
- Operational at ESAs site in Italy (ESRIN)
- Currently being run in parallel to NEODyS/Pisa

## ❑ NEODyS Impact Monitoring

- ESA version under development
- Move to ESRIN and training of operators in 2019

## ❑ An 'impact effects knowledge base' is currently under development

- Lead by scientific institute
- Will be followed by contract lead by software company to develop an operational tool to quickly estimate impact effects



# Information distribution

## Close Approach Fact Sheet

- Produced for asteroids with a computed impact probability
- Always for apparent magnitude brighter than 11 mag
- Pushed to customers – first interface is Germany

## Workshop with other member countries imminent

<http://neo.ssa.esa.int/cafs>

Close Approach Fact Sheets - Last Update: 2018-06-05

Object	Release date	Document version	Download
<a href="#">2018LA</a>	2018 June 05	1.0	<a href="#">Download PDF</a>
<a href="#">2010WC9</a>	2018 May 15	1.0	<a href="#">Download PDF</a>
<a href="#">2012TC4</a>	2017 October 06	2.1	<a href="#">Download PDF</a>
<a href="#">2012TC4</a>	2017 September 28	0.4	<a href="#">Download PDF</a>
<a href="#">3122 Florence</a>	2017 August 30	1.0	<a href="#">Download PDF</a>

space situational awareness

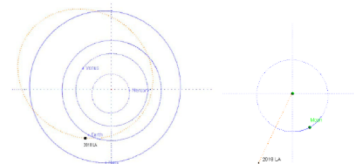
→ NEAR-EARTH OBJECTS

Close approach fact sheet for asteroid 2018 LA  
A small asteroid impacted the Earth on 02 June 2018.

Impact date	2018-06-02
Impact time	~16:45 UTC
Minimum distance from Earth surface	The object impacted the Earth
Fly-by speed	17.0 km/s
Size range	2-5 m

Orbit information

Epoch	Orbital period years (days)	Aphelion Distance au	Perihelion distance au	Eccentricity	Inclination deg	Rotation Period hours
2018-05-02	1.61 (586)	1.959	0.783	0.429	4.279	Not known



# Detailed criteria for Close Approach Fact Sheet (follows IAWN agreement)



- ❑ **Case 1: close approach of an object with no impact probabilities.**
  - The close approach distance is smaller than the GEO distance, or
  - The visual magnitude at close approach is brighter than 11
- ❑ **Case 2: any object with an impact probability with Earth greater than 1 % (and smaller than 100%) within the next 50 years.**
- ❑ **Case 3: any object with an impact probability greater than 1 % within the next 50 years, with regard to a body other than Earth (e.g. Moon, Mars, Jupiter, etc.).**
- ❑ **Case 4: any object predicted to impact the Earth's atmosphere and create a visible phenomenon, but which does not generate a release of energy sufficiently high to cause potential impact damage Need to establish the kinetic energy threshold to use**

