

NEODECS – presentation of the new service

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Abstract

During the last EPSC meeting in 2017 we presented a concept of a new web service NEODECS for collecting and sharing data on Near Earth Objects and facilitating collaboration among observers and researchers. During discussions with potential users and data providers we collected suggestions for improvement of the service. In particular, we opened it for other Small Solar System Bodies like MBAs, TNOs, etc. Now NEODECS is running and we encourage you to use it. Below we present a short description of the service and its most important functionalities.

1 Introduction

The goal of the NEO Data Exchange and Collaboration Service (NEODECS) is to create an open access central repository of structured meta data on NEOs, as well as a platform for collaboration among NEO researchers, using elements well known in social networking. It collects meta data on NEOs' databases and services as well as announces observing plans, helps to seek collaborators and offers of free telescope time. NEODECS can potentially attract observers from other fields of astronomy and encourage them to spend some of their free telescope time on NEO studies. While the information available at the beginning is gathered by us (to reach a critical mass), the service will then live its own life and its content will rely on the needs of its users.

2 Basic functionalities

2.1 Search engine

Our service provides a fast access to even little known resources, which are difficult to find through traditional Internet searches. A good example is a list of rotation periods of small NEAs derived by Bill Ryan

from the Magdalena Ridge Observatory (Fig. 1). It can be located by searching for the parameters *Absolute magnitude*, *Rotation period* or a substring present in the resource title (*Magdalena Ridge Observatory*).

2.2 Coordination of observations

When a new, interesting NEO is discovered, its observing window is usually only 1–2 weeks long. If a researcher wants to fully characterize it, he or she has to act promptly building up a world-wide network of observers, who can pool together their resources. NEODECS service will help to set up an observing campaign very quickly by filling up a standard web form, with all basic information included. Request for collaboration will then be sent automatically by e-mail to all registered observers, who expressed their interest in joint observations.

2.3 Telescope time sharing

It often happens that observers have free telescope time which cannot be spent on program targets. NEODECS will make it easy to offer their services to all registered users, who expressed interest in such form of collaboration. To make it easier, NEODECS provides a web form including all relevant elements like the specification of the available time at the telescope, observatory location, telescope and detector parameters, ownership of the obtained data etc., (Fig. 2).

3 Summary

We encourage you to try NEODECS at www.neodecs.eu.

Acknowledgements

The NEODECS service is developed under the European Space Agency contract ESA-PLP 028.

The screenshot shows a resource entry in the NEODECS system. The header is 'Resource - D60'. The main content area contains the following information:

- Title:** Magdalena Ridge Observatory lightcurves of NEOs
- Institution:** W. Ryan
- Link:** <http://infohost.nmt.edu/~bryan/research/work/neo/lightcurves/>
- Description:** A list of NEO observed at MRO
- Terms of use:** not specified
- Valid to:** not specified
- Reference image:** no image
- Created:** 2018-03-06 10:59 by Aleksandra Leśniewska

Below the main information, there is a 'Parameters' section with four buttons: 'Designator', 'Catalogue number', 'Absolute magnitude', and 'Rotation period'. A 'GO' button is located next to the link. A 'CLOSE' button is at the bottom right of the resource entry. At the bottom of the page, there is a 'Comments' section.

Figure 1: One of the results of a search for the *rotation period* parameter in the NEODECS service. The presented screen shows the meta data with a short description of the Internet resource, a link to its web site, and parameters which are present in the resource.

The screenshot shows an observation entry in the NEODECS system. The header is 'Observation - 022'. The main content area contains the following information:

- Title:** 1.0-m at SAAO in June 2018
- Institution:** Astronomical Observatory Institute, AMU
- Telescope/s:** • 1.0-m
- Description:** I was granted 2 weeks at the 1.0-m telescope at SAAO in South Africa. Depending on the weather, the programme objects may require less time than whole 14 nights, so I am open for suggestions for other objects.
- Valid to:** 2018-06-25 00:00
- Availability:** A calendar for June 2018 showing available dates from the 10th to the 23rd.
- Created:** 2018-01-22 00:23 by Tomasz Kwiatkowski

Below the main information, there is a 'Comments' section with a text input field and a 'SUBMIT' button. A 'CLOSE' button is at the bottom right of the observation entry.

Figure 2: A result of the search for the telescope time offers. The *Telescope/s* field provides a link to additional page with the parameters of the observing system. A calendar shows the time span when the telescope can be used for observations. There is a *Comments* window to provide a feedback from the NEODECS users – it can turn into short discussion on the proposed observing programme.