PDC2021
Vienna, Austria

Please submit your abstract at https://atpi.eventsair.com/7th-iaa-planetary-defense-conference-2021/abstractsubmission

You may visit https://iaaspace.org/pdc

(please choose one box to be checked)
(you may also add a general comment - see end of the page)

☐ **Key International and Political Developments**
☐ **Advancements and Progress in NEO Discovery**
☒ **NEO Characterization Results**
☐ **Deflection and Disruption Models & Testing**
☐ **Mission & Campaign Designs**
☐ **Impact Consequences**
☐ **Disaster Response**
☐ **Decision to Act**
☐ **Public Education & Communication**

The NEO Physical Properties database of the NEOROCKS EU project

Angelo Zinzi[1,2]**, Marco Giardino**[1,2]**, Alessio Giunta**[1,2] **, Ettore Perozzi**[2]**, Alessandra Di Cecco**[2] **, Gianluca Polenta**[1,2]**, and the NEOROCKS team***
[1]*ASI-Space Science Data Center, Via del Politecnico snc, 00133, Rome, angelo.zinzi@ssdc.asi.it*
[2]*Agenzia Spaziale Italiana*

*A full list of authors appears at the end of the abstract

Keywords: *asteroids, NEO, database, Virtual Observatory*

ABSTRACT

The advent of new sky surveys for NEOs in the next years will lead to a large amount of data. This, together with the fact that observations devoted to NEO physical characterization are inhomogeneous and sparsely distributed, will not assure the long-term archiving of these data and the maintenance and the evolution of the corresponding data products.

Within the Data Management activities of the EU funded NEOROCKS project ("The NEO Rapid Observation, Characterization and Key Simulations" - SU-SPACE-23-SEC-2019), the Space Science Data Center of the Italian Space Agency (ASI-SSDC), is defining a novel NEO Physical Properties database, relying on its long-lasting experience on space-data dissemination.

This database will be capable of hosting a great variety of NEO physical characterization data products, ensuring an efficient dissemination, their scientific exploitation and their long-term storage by using an EPN-Core derived data model.

A data model derived from well-defined IVOA (International Virtual Observatory Alliance) standards, will also make the NEOROCKS database compliant by-design with the set of existing virtual observatory services. This implies the ability to store, maintain, give access and regularly update all different levels of processing, from raw data to final products (e.g. size, rotation, spectral type)..

Initially, NEO data (orbital elements and physical properties) are imported from existing sources, such as the NEO Coordination Center (NEOCC) of the European Space Agency (ESA), (thus encompassing the no longer updated EARN database). The database will be then updated regularly by the NEOROCKS users performing new observations throughout the project duration as well as by external authenticated users and/or data sources.

The final outcome will be a technical web portal where both authenticated and anonymous users can access data through a query interface, with different access privileges. This portal will allow to display both dynamical and physical properties of any given NEO, or to search for samples within the NEO population satisfying the user desired requirements.

Being eventually hosted at SSDC, these services will be available beyond the duration of the NEOROCKS project as a reliable and interoperable source of services and data on NEO physical properties.

*NEOROCKS Team: S. Anghel, N. Ariani, M. Banaszkiewicz, S. Banchi, M.A. Barucci, F. Bernardi, A. Bertolucci, M. Birlan, B. Carry, A. Cellino, F. Colas, J. De Leon, A. Del Vigna, A. Dell'Oro, L. Dimare, E. Dotto, P. Fatka, S. Fornasier, E. Frattin, P. Frosini, M. Fulchignoni, R. Gabryszewski, J. Huntingford, S. Ieva, J.P. Kotlarz, F. La Forgia, M. Lazzarin, J. Licandro, E. Mazzotta Epifani, A. Mediavilla, J. Nomen Torres, D. Perna, M. Popescu, P. Pravec, A. Rozek, N. Sanchez Ortiz, P. Scheirich, A. Sergeyev, C. Snodgrass, A. Sonka, C. Teodorescu, G.B. Valsecchi, P. Wajer.

****

Comments:

(Alternative session, Time slot, Oral or Poster, Etc…)