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**NEOSHIELD-2 EUROPEAN PROJECT:  
COMPOSITIONAL CHARACTERIZATION OF SMALL NEOs**

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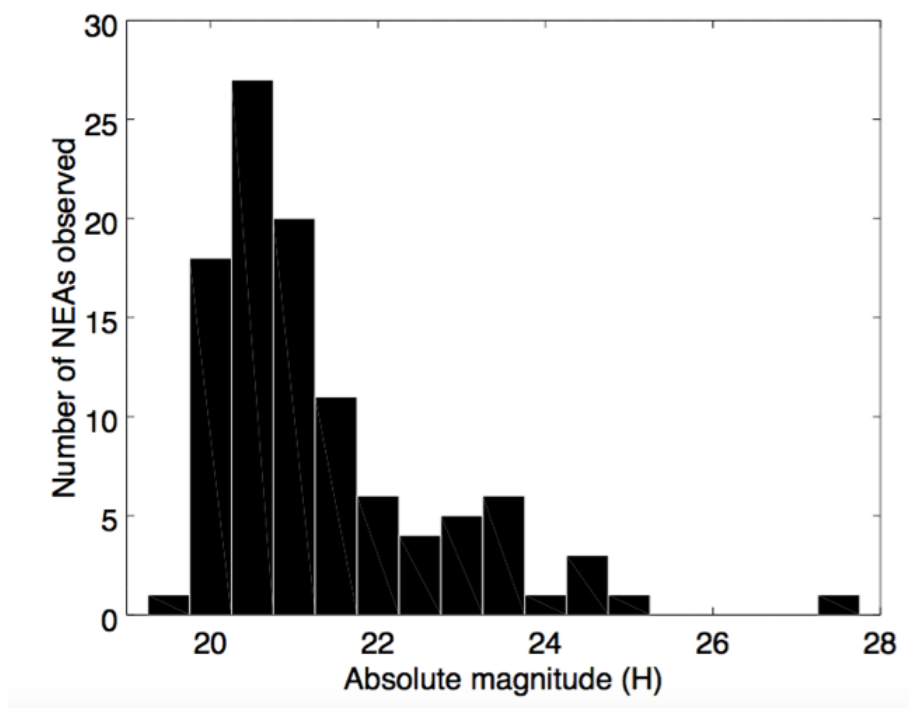
**ABSTRACT**

One of the main objectives of the NEOShield-2 project, financed by the European Commission (2015-2017) in the framework of the EU H2020 program and following the first NEOShield (2012-2015) is to provide physical and compositional characterization of a large number of NEOs in the hundred-meter size range. For this an extensive observational campaign involving complementary techniques and different telescopes around the worlds have been undertake. Our team at LESIA is the coordinator of the entire observational program, moreover we obtained a GTO program at ESO with an allocation of 30 observing nights at NTT telescope to characterize the composition of the small population of asteroids. Priority has been given to potential space-mission targets, optimized for mitigation or exploration

missions.

The characterization of NEOs is necessary to study on the origin and early evolution of the solar system but even more fundamental to assess and mitigate their impact risk with our planet. Moreover, asteroid studies can help shedding light on topics such as the delivery of water and organic-rich material to the early Earth, and the emergence of life.

In the course of the project, we have already obtained 140 spectra of NEOs for 128 individual objects. The observations were performed with EFOSC2 instrument at NTT telescope. We covered the wavelength interval 0.4-0.92, with a resolution of  $R \sim 200$ . The distribution of the H magnitude of the observed asteroids is reported in Fig. 1.



**Figure 1.** Distribution of H absolute magnitude of the preliminary observed NEOs.

On the basis of the preliminary analysis of the obtained spectra, we assigned a taxonomic type to 104 objects. The obtained results will be presented and discussed.

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