STUDYING SPECTRAL PROPERTIES OF INTERSTELLAR DUST AND METEORITES, MAIN BELT ASTEROIDS, AND TNOs. D.I. Shestopalov and P.N. Shustarev, Shemakha Astrophysical Observatory, Shemakha, Azerbaijan, AZ-3243 (shestopalov_d@mail.ru).

Introduction: Are among minor bodies of Solar System such objects whose spectral properties are close to those of interstellar dust? To answer this question selective extinction of light by interstellar dust particles was studied using colorimetric observations of Bright Stars [1, 2]. After that we compare the observed extinction curves with theoretical ones, which were calculated from reflectance spectra of asteroids, meteorite samples, and trans-Neptunian objects.

Simulation approach: A theory of light scattering by regolith-like surface [3] allows deriving the complex refractive index of the surface material from its albedo spectrum. To calculate the model extinction curve which is generated by the same material concentrated in small dust particles, Mie theory in the approach of Rayleigh's particles was used.

Results: *Asteroids*. Among asteroids of various optical types from [4] only material of D-asteroid surfaces reproduces the extinction curves that are close to the interstellar ones. Figure 1 shows the best fit of the modeled and observed extinction curves in the range of 0.3 – 1.1 μm. Notably, D asteroids 1167 Dubiago and 1269 Rollandia are situated in the inner side of the Main Belt, and 1172 Aneas is Trojan.

Meteorites. Unusual carbonaceous chondrite Tagish Lake is believed to be closely related to D-type asteroids [5]. Among the available meteorite reflectance spectra in [6] only the spectrum of Tagish Lake gives the model extinction curve that is similar to the observed ones (Fig. 1). Figure 2 shows the extinction curve of meteorite Tagish Lake expanded up to 8 μm. The differences between the model and observed extinction curves in the range of J and K bandpasses are caused by the shallow and broad absorption feature present in the meteorite reflectance spectrum.

Trans-Neptunian Objects. The absence of reliable information on TNO's albedo is the main difficulty here. Figure 3 shows the first result derived from the average colors for the optical groups (specified in [7]) on the assumption of the group average visual albedo ~ 0.07. This value is close to albedo derived from modeling the surface composition of some TNOs (see [7] and references therein).

Conclusions: Material of interstellar dust particles appears to survive still on some D asteroids and TNOs.

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