

### ANALYSES OF NEAR-IR SPECTRA FOR THREE ASTEROIDS IN THE HUNGARIA REGION

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**Introduction:** Approximately 60% of all E-class asteroids reside in this region of the inner main belt. Gaffey *et al.* [1] found a probable genetic link between the E-class NEA 3103 Eger and the aubrites, and pointed out that the aphelion of Eger is situated in the midst of the Hungaria family. Kelley and Gaffey [2] showed additional evidence for a genetic link between 434 Hungaria, 3103 Eger, and the aubrites. The crustal material of the aubrite parent body has not been found in meteorite collections. Also, crustal material of an E-class parent body has not been identified in asteroid spectral databases. Fragments of this material may exist within the X- or S-class, or unclassified asteroids in this region. These objects should elucidate the compositional and thermal evolution of the Hungaria parent body.

**Observations and data reduction:** Near-IR spectroscopic observations of asteroids studied here were carried out using the SpeX medium-resolution spectrograph [3] at the NASA Infrared Telescope Facility on Mauna Kea, Hawai'i. All spectra were reduced and analyzed using IRAF software and the SpecPR program [4]. Spectral parameters (e.g. 1- and 2- $\mu$ m band centers, and band area ratios) [5] were calculated using SpecPR.

**Results:** The spectrum of (3940) Larion is somewhat noisy near the 1.4- and 1.9- $\mu$ m telluric water vapor absorptions due to less than perfect weather during the observations. However, a broad, weak absorption feature appears to be present at  $\sim$ 1.2-1.6  $\mu$ m. The cause of this feature is still being determined.

Asteroid (4483) Petofi was previously assigned a taxonomic designation of X [6]. The new NIR spectrum shows iron-bearing silicate absorption features near 1- and 2- $\mu$ m. Our analyses show it to be either an S(III) or S(IV) subclass [7] with an olivine abundance of 80%. Petofi is a member of the Hungaria dynamical group, but its olivine abundance and pyroxene chemistry rule out a common origin with the Hungaria parent body.

Asteroid (3169) Ostro exhibits a weak, but well-defined, broad absorption feature near 1  $\mu$ m. The visible-region spectrum [8] of Ostro exhibits an absorption feature near 0.5  $\mu$ m. The combination of these features place the asteroid in the E[II] subclass [9].

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