Andreyivanovite FeCrP

Crystal Data: Orthorhombic. *Point Group*: 2/*m* 2/*m* 2/*m*. As grains to 8 μm and in linear arrays of grains within two masses of Fe-rich serpentine.

Physical Properties: *Cleavage*: n.d. Hardness = n.d. D(meas.) = n.d. D(calc.) = n.d.

Optical Properties: Opaque. *Color*: Creamy white in reflected light. *Streak*: n.d.
Luster: Metallic.
Optical Class: n.d.

Cell Data: *Space Group*: *Pnma*. a = 5.833(1) b = 3.569(1) c = 6.658(1) Z = 4 [synthetic FeCrP]

X-ray Powder Pattern: Calculated pattern.
2.247 (100), 2.139 (81), 2.258 (46), 1.785 (43), 1.885 (34), 2.074 (31), 1.866 (31)

Chemistry:

	(1)	(2)
P	22.30	22.31
Ti	2.81	
V	3.99	
Cr	21.99	37.46
Fe	46.24	40.23
Co	0.11	
Ni	2.56	.
Total	100.00	100.00

(1) Kaidun meteorite; average electron microprobe analysis; after subtraction of contributions from matrix contamination corresponds to $Fe(Cr_{0.587}Fe_{0.150}V_{0.109}Ti_{0.081}Ni_{0.060}Co_{0.002})P$. (2) FeCrP.

Occurrence: In microbreccia containing an enormously varied assortment of extraterrestrial fragments of different chondritic and achondritic lithologies.

Association: Florenskyite, serpentine.

Distribution: From the Kaidun meteorite.

Name: Honors *Andrey Ivanov* (b. 1937), Russian geochemist and mineralogist, who was one of the principal investigators for the Luna missions.

Type Material: At the Curation Facility, NASA Johnson Space Center, Houston, Texas, USA (section 3.10j) and the Vernadski Institute, Moscow, Russia.

References: (1) Zolensky, M., M. Gounelle, T. Mikouchi, K. Ohsumi, L. Le, K. Hagiya, and O. Tachikawa (2008) Andreyivanovite: A second new phosphide from the Kaidun meteorite. Amer. Mineral., 93, 1295-1299.