# Минерал флоренскиит FeTiP обнаружен в метеоритной полимиктовой брекчии Kaidun, идентифицирован как новый минерал в 1999 г.

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## Florenskyite, FeTiP, a new phosphide from the Kaidun meteorite

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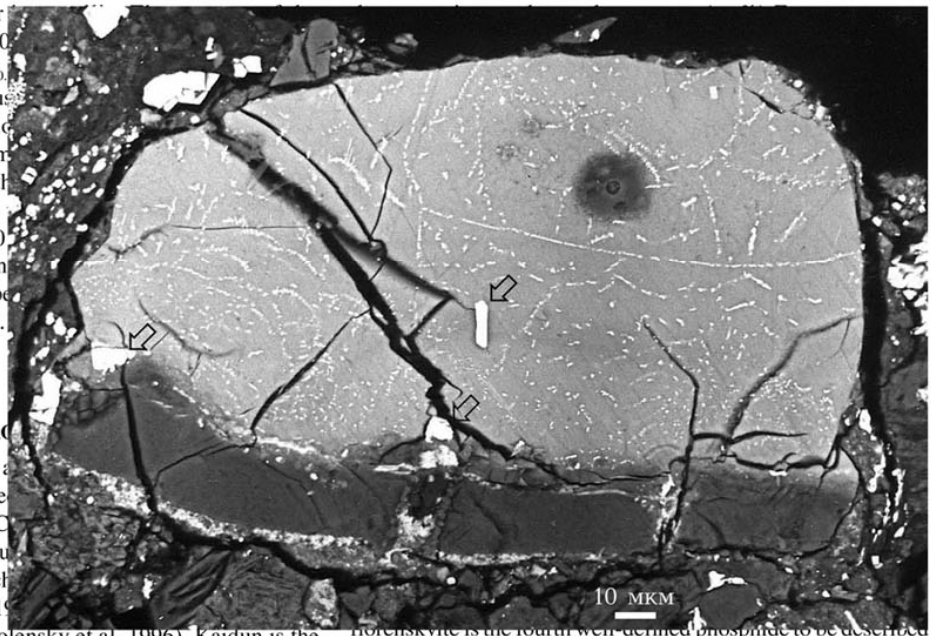
### ABSTRACT

Florenskyite is a new phosphide species from the Kaidun chondritic meteorite, which fell in South Yemen in 1980. Kaidun is a unique chondritic breccia containing a huge variety of fragments of different chondritic types. Florenskyite was found as four dispersed grains with a maximum dimension of 14 μm within a single mass of Fe-rich serpentine within one Kaidun clast. Florenskyite is associated with submicrometer-sized grains of pentlandite and small (up to 1.5 μm in width) laths of a still uncharacterized Fe-Cr phosphide. Florenskyite is creamy white in reflected light, and its luster [illegible] 40.52, Ti 30.0[illegible] $Fe_{1.01}(Ti_{0.87}Ni_{0.}$[illegible] florenskyite us[illegible] diffraction. Fl[illegible] viously deter[illegible] were used in t[illegible] XRD pattern; [illegible] (45), and 1.80[illegible] paragenesis m[illegible] metal, schreib[illegible] from the melt.




### INTRO[illegible]

The Kaidun meteorite is [illegible] breccia containing an unpre[illegible] different chondritic types (C[illegible] classes of carbonaceous, Ru[illegible] as well as other clasts which[illegible] tures (Brandstaetter et al. 19[illegible] 1989; Ivanov et al. 1986; Zolensky et al. 1996). Kaidun is the Franklin Furnace of the meteorite world. This meteorite (842 g total mass) was recovered immediately after its observed fall in South Yemen in 1980; therefore formation of terrestrial minerals within the meteorite (due to hydration, oxidation, hydrolysis, etc.) is basically precluded. The new mineral florenskyite was found in a single polished section of Kaidun (section no. 53.10) among the twenty examined; we do not know how common it may be within the meteorite; it may well be unique.

Three natural, well-defined phosphides are known today as minerals. Schreibersite, $(Fe,Ni)_3P$, is a typical accessory mineral in most iron and many stony meteorites. Barringerite, $(Fe,Ni)_2P$, was found at first in the Ollague pallasite (Buseck 1969) and later in the Y-793274 lunar meteorite (Brandstaetter

[illegible] from nature.

**The mineral is named for Cyrill P. Florensky (1915–1982), Russian geochemist, who is one of founders of planetology (Colleagues in the Laboratory of Comparative Planetology, 1985). The new mineral and the name have been approved by the Commission on New Minerals and Mineral Names of the IMA. The type (and sole) polished section containing florenskyite is deposited at the Meteorite Curation Facility, NASA Johnson Space Center, Houston, Texas, U.S.A.**

### OCCURRENCE

The Kaidun clast (no. 53.10) containing florenskyite measures approximately 4 mm × 3 mm, and consists of extremely brecciated carbonaceous and enstatite chondrite material, showing various degrees of asteroidal alteration (Fig. 1). Among these fragments are two rounded phyllosilicate masses of similar

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