

**Crystal Data:** Cubic. *Point Group:*  $4/m\bar{3}2/m$ . As cores of spheres, to 0.5 mm, surrounded by other iron minerals.

**Physical Properties:** *Tenacity:* Brittle. Hardness = n.d. VHN = 494–514 (50 and 100 g loads). D(meas.) = n.d. D(calc.) = 7.29 Strongly magnetic.

**Optical Properties:** Opaque. *Color:* Black to steel-gray; grayish white with a yellow tint under reflected light. *Streak:* Black. *Luster:* Metallic.

*Optical Class:* Isotropic.

R: (402) 48.4, (439) 48.4, (480) 51.0, (495) 51.2, (546) 53.5, (590) 53.4, (624) 53.9, (644) 54.0, (657) 54.3

**Cell Data:** *Space Group:*  $[Fm\bar{3}m]$ (by analogy to synthetic Fe<sub>3</sub>Si).  $a = 5.670(5)$   $Z = 4$

**X-ray Powder Pattern:** Yanshan Mountains, China.

1.156 (100), 2.00 (90), 1.003 (70), 1.415 (60), 3.26 (30), 2.83 (30), 1.706 (20)

**Chemistry:**

	(1)	(2)
Fe	84.8	85.64
Mn	0.70	
Ni	0.8	
Si	13.3	14.36
Total	99.6	100.00

(1) Yanshan Mountains, China; by electron microprobe, average of five analyses; corresponding to  $(\text{Fe}_{2.97}\text{Ni}_{0.03}\text{Mn}_{0.02})_{\Sigma=3.02}\text{Si}_{0.98}$ . (2) Fe<sub>3</sub>Si.

**Occurrence:** Innermost in spheres, surrounded by nickel-iron minerals and their oxidation products, apparently of extraterrestrial origin, found in placers.

**Association:** Xifengite, kamacite, taenite, magnetite, wüstite, maghemite.

**Distribution:** In the Yanshan Mountains, Hebei Province, China.

**Name:** For an eastern passageway, Gupeikou, of the Great Wall of China.

**Type Material:** Institute of Geology, Chinese Academy of Geological Sciences, Beijing, China.

**References:** (1) Yu Zuxiang (1984) Two new minerals gupeiite and xifengite in cosmic dusts from Yanshan. *Acta Petrologica Mineralogica et Analytica*, 3, 231–238 (in Chinese with English abs.). (2) (1986) *Amer. Mineral.*, 71, 228 (abs. ref. 1).