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No 'new evidence' for meteoritic origin of the Tunguska event

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A recent report [1] found that investigated Tunguska samples are microscopically small remnants of a meteoritic body, and while diamond and lonsdaleite were considered to be products of the impact, other metallic phases such as troilite, schreibersite, γ -Fe and taenite were described as a typical set of meteoritic minerals in the diamond-lonsdaleite-graphite matrix. However, we remind that: (1) the presence of aragonite and a light carbon reservoir [2], [3] indicate that terrestrial carbon graphite could be the precursor of the analyzed samples, (2) all nano-inclusions found in the carbonaceous matrix [1] could be extended out from single grains of terrestrial troilite [2], (3) the negligible content of Os and Ir in the carbon matrix [1], [2], [3] support their terrestrial origin as well. Thus, the report [1] doesn't provide new proofs for a meteoritic origin of the Tunguska event, and alternative versions, e.g., an explosion of Tunguska mantle palaeovolcano during a solar flare on June 30, 1908 [4], still under debate.

[1] Kvasnytsya, V. et al. (2013) PSS 84, 131–140.[2]

Sobotovich, E. et al. (1985) Meteoritika (in Russ.) 44, 135.

[3] Hough, R. et al. (1995) Meteoritics 30, 521. [4]

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