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# Chelyabinsk meteoroid: review of sources and substantiation of conclusions

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*The study shows that the idea of an aerial explosion of a chondritic meteoroid with the density of  $3300 \text{ kg/m}^3$ , diameter of about 15...20 m, mass of 10...15 kt and explosion energy of 0,3...0,5 Mt TNT, which took place on Feb 15th, 2013, in the sky to the south-south-west of Chelyabinsk, is completely out of agreement with the phenomena actually observed at the moment in the atmosphere and on the underlying terrain. This is proven by infrasound investigation results, excess shockwave pressure levels in Chelyabinsk and its surroundings, and data on broken glass, demolished gates and deformed bearing beams of steel. The mass of the Chelyabinsk meteoroid trail also supports this. The study analyses available data and explains the reasons why there appeared incorrect yet widely published estimations of meteoroid parameters and explosion characteristics.*

**Keywords:** Chelyabinsk meteoroid, meteoroid, nuclear blast, infrasound, flash, shock wave, pressure.

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