Fallout debris from the Hiroshima atomic cloud of August 6, 1945

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The whereabouts of the urban debris that were uplifted in the atomic cloud following the explosion of the A-bomb that obliterated the city of Hiroshima has not yet been investigated. The yet unreported occurrence of tens of tons of well-preserved, aerodynamically-shaped glasses and fallout debris in beach sands some 6km south of the bomb's hypocenter appears to answer that question (Fig. 1). We report on the discovery and analysis of these debris, using optical microscopy to identify unusual particles ranging from glass spheres and filaments to magnetic fragments, and using SEM and high energy microfocus synchrotron X-rays to identify phases, including amorphous glass, anorthite-mullite aggregates with iron inclusions. The geochemical analysis provides convincing evidence that these heterogeneous debris are the remnants of the August 6, 1945 bombing that destroyed the city [1].

Figure 1: Spherules and filaments from Hiroshima Bay

[1] Wannier *et al*. (2019) *Anthropocene* **25** 100196