Fireball over Germany and Poland 6-th October 2017

Trajectory and orbit

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Every 20 frames (0.8s)

PFN52 PAV75 Mintron 12V6 + Computar 6mm f/0.8 Operated by: Marcin Stolarz
Video Data Summary - PFN52

- Frames: 333
- FPS: 25
- Length: 13.32 s
- Detection time: 20:19:53.93 UT
- Beginning point – not observed, late detection
- Terminal point - not observed, obscured by tree
- Manual measurements, frame by frame. Centroid manually determined due to heavy coma
Operated by: Sirko Molau
Every 20 frames (0.8s)
Video Data Summary - REMO1

- Frames: 173
- FPS: 25
- Length: 6.92 s
- Detection time: 20:19:50.71 UT
- Beginning point – not observed, out of FOV
- Terminal point - not observed, out of FOV
- Automated astrometry by MetRec
Operated by: Anastasios Margonis
Video Data Summary - DLR

- Frames: 91
- FPS: 7.5
- Length: 12.1 s
- Detection time: 20:19:46.5 UT
- Beginning point – not observed, behind the camera mounting
- Terminal point - terminated by UFO Capture due to low angular speed at 20:19:58.6 UT
- Manual measurements, frame by frame
Fireball stations on the map
Fireball trajectory
Fireball trajectory

Length (observed): 217 km

Duration: 17.5 s
Fireball trajectory
Fireball trajectory

- Trajectory length: 84 km
- Velocity: 14.5 km/s ± 0.2
- Incidence angles: Inc 1 = 13.6°, Inc 2 = 11.7°
Ablation ceased after 1.5-2s from the last observed point
Possible meteorite fall 30km north of the Baltic coast, estimated mass 0.5kg
Fireball orbit

- $a : 3.0 AU$
- $e : 0.67 \pm 0.02$
- $i : 4.85^\circ \pm 0.05$
- $q : 0.955 AU \pm 0.0003$
- $\omega : 8.4^\circ \pm 0.3$
- $\Omega : 13.5282^\circ \pm 0.3$
Summary

- Slow and very long fireball has been recorded by three cameras in Poland and Germany
- Duration 17.5 s, length 217 km
- Shallow trajectory with inclination 11.6 degrees at the end
- Initial velocity 14.5 km/s (beginning point not observed)
- Terminal velocity 6.5 km/s at 34km height (the last visible frame, not real terminal point)
- Meteorite fall possible north of the Baltic coast

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Thank you for your attention!