

Meteor sightings

How to observe

How to report

Who to report to

- Maybe you can enlighten me; Last night, 25 January, at around 23h00, I stepped out for a breath of fresh air and saw a red comet shaped streak across Orion's belt. It seemed very close, almost aeroplane height, and had a very long tail. It shot across the sky shooting star style. What could this have been and did anyone else happen to be looking at the sky at precisely that moment?
- Just got a call from Radio Kosmos in Namibia. Someone saw what they described as a meteor fall from Windhoek looking in the direction of Swakopmund. This happened around 5 pm Namibia time (4PM SAST) yesterday.
- On Saturday evening I did in fact see a bright light over the Pretoria area, I saw it from Edenvale it looked at first as if the ISS was passing by and I saw only the last part of what is now the fireball in that area.
- Although we had very heavy clouds over Johannesburg last evening (but still no rain), I remember when I did go out around 19:00 I saw bright glow through the gaps in the clouds almost directly overhead and didn't make anything out of it as if it was the Moonlight. But after receiving this e-mail I've realised, that there wasn't bright Moon !

Standard reporting

- Exactly where you were
- The date and timing of the event
- Universal Time or local clock time?
- Where it started and ended in the sky

- A short description.

Where you were

- Stay calm. You do not have to report this immediately. OBSERVE.
- Make notes to use later.
- It is valid to search for your location on Google maps for instance.
- Record you location so that your position can be found on a map.

Date and timing

- Date and Time.
- Event timing.
- How long did the event last?
- Seconds?
- Minutes?

The event itself

- Start and end position in the sky.
- What compass direction? Start and end directions.
- If using a compass—magnetic declination?
- At worst state N, SW, ESE etc.
- Remember what you saw. You can always estimate the compass directions later.
- At night, make a note of the stars close to the start and end. Note landmarks in the day.
- Estimate the altitude of the start and end.
- Report Start and End Azimuth and Altitude

Now the artistic part

- **Apparent speed:**
 - 0 = stationary , 5 = very fast
- **Trails:**
 - Fast, brighter ones, may leave a glowing **ionization trail** after they have disappeared. How long to fade?
- **Sounds:**
 - What sounds? How long after the event?
- **Fragmentation:**
 - Breakup?—how many pieces? Sparkles along the path?
- **Colours:**
 - Use only pure hues, red, orange, yellow, green, blue, violet, white. State "blue-green" not "turquoise"
- **Magnitude:**
 - Difficult. Brighter than? As bright as?

Definitions

- **Meteoroid**
 - The solid speck, usually much smaller than a millimetre
- **Meteorite**
 - If it makes it to ground
- **Meteor**
 - the streak of light itself
- **Fireballs**
 - As bright or brighter than the bright planets
- **Bolides**
 - Those that go on to explode
- **Asteroids**
 - Meter size projectiles can be considered asteroids. Strikes the atmosphere at least 50 times per year

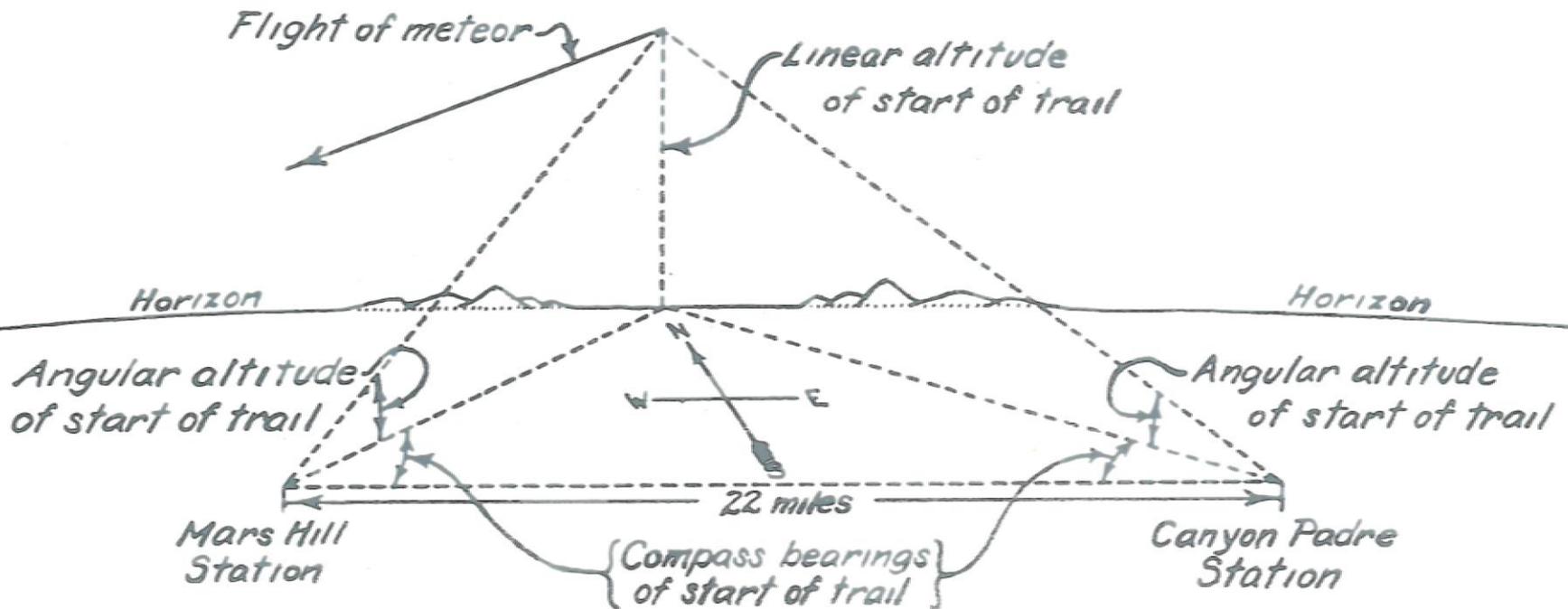
Statistics

- About 100,000 metric tons of space dust enters the atmosphere each year.
- Most meteors (shooting stars) you see are caused by the passage of small dust grains into the atmosphere.
- Generally left behind by comets
- About the size of a grain of sand.
- 40-60 km/s relative to the earth. A lot of energy.
- Ionise the molecules in the atmosphere.
- It is this ionisation trail that you see, not the particle itself burning.
- They generally burn up at an altitude of 80-120 km

Practical example

Hunter's Meteor, 1 October 1949, 14:32 PST, Central Oregon, USA

Opening day of the hunting season, so many possible observers were outside and recorded their observations



Conclusion

The height of appearance of the hunters' meteor was calculated as about 70 miles, that of disappearance not more than 10 miles and likely less. Many of the lines of sight run in wild directions. They were furnished by hunters without compasses and in unfamiliar locations. These "erratics" led a newspaperman to remark, "From the shots some of those hunters took at the fireball, it is quite evident why they did not bring home the venison."

Who to report to?

- **Shallow Sky Section Director:**
 - Dave Blane
- **Activity areas:**
 - Sun, Moon, Planets, Satellites, Asteroids, Comets, Meteors, Occultation.
- **Specialists & Collaborators:**
 - Tim Cooper, Brian Fraser, Lia Labuschagne, Greg Roberts, Jim Knight
- **Contact:**
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