

# Some UFOs may be explained as ball lightning

December 2 2010, by Lin Edwards

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Image of very bright fireball over Brisbane

(PhysOrg.com) -- An Australian scientist studying photographs of fireballs, UFO sightings and a report of a strange green light in the sky suggests some UFOs may be ball lightning caused by fireball meteors.

Dr. Stephen Hughes, an astrophysicist from the Queensland University of Technology (QUT) was asked to study over 200 photographs of green fireballs taken with mobile phones by people near Brisbane, Queensland, on the night of 16 May 2006, and sent in to a local television station. Fireballs were also reported that night in northern New South Wales, the Northern Territory and in New Zealand.

The university then organized a survey, which produced many other eyewitness accounts of sightings of fireballs and UFOs on that night.

One of the witnesses who came forward had reported to the police on the night that he thought he had seen debris from a plane crash. The witness, Doug Vernon from Greenmount in Queensland, said he saw a fireball pass overhead and disappear behind a nearby ridge, and immediately afterwards a luminous green ball approximately 30 cm in diameter rolled gently down the slope from the ridge, “jumping” over rocks, and following a metal fence for several minutes.

In his paper published in *Proceedings of the Royal Society A: Mathematical and Physical Sciences*, Dr. Hughes suggests there were at least three fireballs that night and that one of them was linked to the green light, which was actually ball lightning. It could not have been solid, he said, or it would not roll gently down the hill. There was no explosion and no crater or meteor fragments were found.



Drawing of fireball travelling north by David Sawell

The theory proposes that one of the [meteors](#) falling to Earth as a fireball could have triggered an electrical connection between the upper atmosphere and the surface, and this would have provided enough energy to create ball lightning seen rolling down the side of the Great Dividing Range by Mr Vernon. Dr. Hughes said there is a natural flow of current between the ionosphere and the ground, and this could have been increased by the passage of a [fireball](#) streaming a trail of charged particles and other conductive material behind it.

Dr. Hughes speculated that this created a transient conductive connection to the ground, putting a charge into the ground and creating a plasma ball of some kind above it. He likened the ionosphere and ground to the two terminals of a battery and the spark that is created when a wire touches both terminals.

Dr. Hughes said the events during that night could have led some people to think the bright green object and fireballs were UFOs, and he said that if you add “inexplicable atmospheric phenomena” to human psychology, this could explain many [UFO sightings](#).

Fireballs are produced when fragments of rock around the size of an apple enter the Earth’s atmosphere. Like shooting stars, which are produced by small particles, they shoot across the sky with great speed. Dr. Hughes said the fireballs could have been debris from a comet that passed close to Earth four months earlier.

Ball lightning is a rare phenomenon in which bright spheres of light are seen to hover and move unexpectedly. It is poorly understood but is known to be often associated with thunderstorms. There was no electrical storm in the region on the night of the sighting.

**More information:** Hughes, Stephen W. (2010) Green fireballs and ball lightning. Royal Society of London. *Proceedings A. Mathematical, Physical and Engineering Sciences*. (In Press) [eprints.qut.edu.au/38939/](http://eprints.qut.edu.au/38939/)

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