

Informal Comments Regarding a Youtube Video
of a Triangular Object Apparently Moving in the Sky

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Editorial Comment

A short (1min 08 sec) video was inserted on youtube on October 3, 2011 that showed a dark triangular object with surface lights that appeared to glide about while changing pitch and yaw attitude. The URL for this video¹ was brought to the attention of NARCAP staff for comment and soon elicited the following by G. Smith. His insightful comments have not been edited in any significant way. They are presented here as an Investigator's Support Paper because of their potential usefulness to others who would evaluate other similar video imagery. NARCAP neither supports nor does not support the validity of this imagery in any way.

“When I first saw this video, my first thought was CGI (computer generated imagery). My main reason for suspicion is my bias (and I will label it as such) that "real" UAP (unidentified aerial phenomena) fly in the manner that was described by Paul R. Hill in his book, "Unconventional Flying Objects--a Scientific Analysis" (Published Privately, Norfolk, VA, 1993, 232 Pp.)

“To briefly restate Paul's main points, he shows that virtually all the puzzling phenomena associated with a certain class of unconventional flying objects can be explained by the assumption of a controllable "acceleration field" surrounding the object and acting on every piece of mass within reach of that field. This includes the surrounding air, water, cloud droplets, the Earth, tree leaves and branches, etc. -- all of which have been observed to react to the close passage of UAPs. When interacting with the air surrounding a UAP, Paul showed that the fluid dynamics caused by such an "acceleration field" would closely resemble those described mathematically by what is referred to as "potential flow" -- a kind of idealized condition in which aerodynamic noise, heating, turbulence, and shock formation is suppressed. I think the Chicago O'Hare UAP of Nov. 7, 2006, for example, was "real" in part because it demonstrated this suppression of noise and turbulence when it left a hole in the clouds.²

¹ <http://www.youtube.com/watch?NR=1&v=UnUpJw5sahg&feature=fvwp>

² See NARCAP Technical Report 10 (2007) for a fuller discussion of this case.

“Conventional craft such as airplanes, helicopters, rockets, and such fly from point A to point B by physically colliding with the air molecules on their front surfaces and pushing the molecules out of the way. This process is intrinsic to generating lift, drag, turbulence, and noise associated with conventional flight. Unconventional Flying Objects push air molecules out of the way in front and pull them back together behind, via the use of a long range "field effect" which is conservative of energy. Little to no net kinetic energy is imparted to the air molecules by collision. Paul points out that, while the aerodynamic flow around a solid body is intrinsic to generating the lift and drag associated with conventional flight, it is incidental or irrelevant to the "flight" of a UAP. This is why he says (and I agree) that the word "flying" imbedded in the acronym "UFO" is actually a misnomer. Most people regard the reported absence of heating, noise, turbulence, shock waves, etc. as evidence for the falsity of a UAP report; Paul and I regard it as just the opposite.

“When Paul first started writing his book in the early 1950s, our modern description of gravity as being an outcome of Einstein's theory of General Relativity was not yet widely appreciated. In 1988, Kip Thorne pioneered the modern idea of engineering the fabric of space-time when he showed that the equations of General Relativity can produce self-stable configurations of warped space-time such as black holes and wormholes. Since then, it has been shown by, (for example, Alcubierre) that self-contained space-time "bubbles" can theoretically be formed that could transport their contents at any arbitrary speed, including faster than light. To a nearby observer, such an object in a "bubble" passing by would appear to generate an "acceleration field" of just the sort that Paul Hill postulated.

“So, in my world, an object that appears to fly without reference to the normal rules of aerodynamics has a chance of being a real UAP, or whatever you want to call it -- real, in the sense of being of exotic origin. An object that appears to fly while obeying all the rules of aerodynamics that I was taught in grad school is not particularly mysterious and has no particular need to be of exotic origin.

“The object depicted in the video³ appears to be a mish-mash of features reported from various black triangle sightings together with some features that the lay public would presumably associate with aerodynamic flight. For example, the object appears to fly with a pointy end forward, as an airplane would presumably do. The upper surface of the front end near the nose bulges upward slightly, suggesting a vestigial fuselage and cockpit (similar to a B-2 bomber). It has what appear to be stabilizing fins canted inward and located near the rear upper trailing edge, and it has two features on the rear (trailing) edge that are arranged symmetrically around the centerline, suggestive of jet engine exhausts.

³ Refers to the youtube video referenced in footnote 1.

“As a professional aerospace vehicle designer, this kind of random assortment of features makes no sense to me. But, people who are not familiar with the equations of motion of aerospace flight have no trouble with it. As just one example, the location of the center of mass of a flying object is a crucially important parameter. What most computer graphic image (CGI) artists don't know is that, when an aerodynamic surface is used to generate lift the lift force acts as though it were concentrated at the 1/4 chord point (i.e., 25% of the way back from the nose). When you have a symmetric shape like an isosceles triangle, its center of mass would normally be in the geometric center of the object (assuming the mass of its internal components were distributed relatively uniformly). So, in the configuration depicted, the center of mass would be quite a ways BEHIND the center of lift. This is a classic condition for creating severe aerodynamic instability. What happens is that--assuming the object is moving forward with some appreciable velocity -- a small amount of angle of attack (i.e., nose pitching up) creates a small amount of lift. Because the lift vector is ahead of the center of mass, the lift vector causes the nose to pitch up some more. This causes the lift vector to increase some more, which causes the nose to pitch up some more, etc., etc. This proceeds quickly until the object has pitched up to the point where the wing stalls and is no longer generating lift. Then it falls out of the sky.

“I have this same reaction every time I watch a Star Wars episode.

“I would not put much stock in this video being "real" without an airtight story behind who took it, under what circumstances, ruling out image tampering, etc. And then I would want a real good explanation for the physics behind how it supposedly flies.”