

Subject: Columbia 5th Anniversary -- Mystery of the Purple Lightning Zig-Zag Photo  
Date: Thursday, January 10, 2008 3:10 PM // Jim Oberg news media client advisory:

1. One angle on the fifth anniversary of 'Columbia' is the festering controversy over the famous 'lightning bolt strikes shuttle' photograph that has been all over cable TV and the Internet as 'the secret cause of the Columbia crash.'

2. The pictures, taken by an amateur astronomer named Goldie and loaned to NASA, remain copyrighted by him, so only pirated copies are on the internet. Here's the main one: [http://energia.sl.pl/shuttle/ufo\\_attacks\\_columbia.jpg](http://energia.sl.pl/shuttle/ufo_attacks_columbia.jpg) or [http://i40.photobucket.com/albums/e229/shuffle23/The\\_Other/ufo\\_attacks\\_columbia.jpg](http://i40.photobucket.com/albums/e229/shuffle23/The_Other/ufo_attacks_columbia.jpg)  
A drawing of the image is here:  
[http://members.fortunecity.com/timevehicle/shuttle/ufo\\_after\\_columbia.jpg](http://members.fortunecity.com/timevehicle/shuttle/ufo_after_columbia.jpg)

3. The purple zig-zag sure does look weird, and in the early post-disaster days, all leads were followed up. An excellent newspaper account is at <http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2003/02/11/MN150539.DTL>

4. Both NASA and independent photoanalysts quickly realized the zig-zag was just the initial shaking of the camera on its tripod as the photographer triggered the start of the time exposure.

5. But it sure doesn't LOOK that way, and a lot of folks -- who did not understand what a shuttle entry fireball really looks like -- were genuinely puzzled.

6. Suggestion: It shouldn't take much effort to reproduce the visual and mechanical conditions under which these images were made, to demonstrate to those still wondering about -- and those strenuously rejecting -- the 'official answer'.

7. Here's the missing visual clue: the flaring fireball of plasma around the shuttle itself leaves a milky-white glowing trail behind it, a trail that persists and slightly widens over the next 30-60 seconds as the shuttle passes over head.

8. I've seen it myself, maybe 8-9 times from Texas, when Florida-bound shuttles cross our clear (sometimes), dark skies (it's too dim to show up against a bright sunlit sky).

9. So even an instant photo of an entering shuttle would show a long white trail off behind it.

10. Add in a time exposure, where the entire tail gets to burn its way onto the optics and the actual fireball is just a dot that dances briefly, then follows the well-marked trail down its center, and you have a formula to generate an image that looks exactly like the ones that Goldie took.

11. After each exposure, he moves the camera on its tripod and trips the start button again, recreating the same phenomenon each time to greater or lesser degrees.
12. Several years later, a TV documentary called 'Megalightning' (David Monaghan Productions/HTV West, National Geographic Channel, 9-12-2004) discussed the possibility the zig-zag was such a bizarre phenomenon (transcript at <http://www.dmptv.co.uk/pro/mega/index.htm>). They gave a pretty good history of the puzzle and concluded that the jiggled camera was the explanation.
13. Now, do a google on 'shuttle columbia shot down' and look at the thousands of hits. Read some of them! Bizarro!
14. Some of the looniest stuff has (as usual) been on YouTube, where a self-promoting UFO nut named David Sereda (yes, he has a blog, and sells videotapes) describes how it was a death ray from the aliens:  
<http://www.youtube.com/watch?v=II5iGN132P8#PU6R1R6SrME>  
What's scary is to read the comments posted by viewers who swallow the idea -- they sound like a legion of Ron Paul and Dennis Kucinich volunteers.
15. Here's some further details about how shuttle fireballs really look:  
Images of shuttle fireball trail:  
<http://icons.wunderground.com/data/wximagenew/w/Westerberg/154.jpg>  
<http://www.eclipsetours.com/sat/sts931.jpg> (NOT a time exposure – trail is persistent)  
Entire section on Columbia entry imaging... <http://www.eclipsetours.com/sat>  
Discussion of physics of the persistent trail <http://www.eclipsetours.com/sat/shuttle.html>
16. Here's a detailed description from Dr. David R. Bretz, 'Principal Imaging Scientist' at the NASA Johnson Space Center in Houston, in a report he wrote in 2005:
17. "The purplish color was typical of the glow seen around the moving orbiter, while the greenish color was typical of the luminous trail left in the wake which lasted for a longer period and did not drift quickly. In this picture, the shutter was opened after the orbiter was already within the frame, not before it entered. So the purple wiggle is the orbiter during the bump and the continuous green streak behind it is not from the orbiter itself, but from the trail.
18. "Once the bump was over, the orbiter and trail filled in the line. The observer stated he had no cable-release to prevent the wiggle of the camera at the shutter depress.
19. "This was only one of several photos which were submitted with a similar purple wiggle caused by the orbiter itself and an unsteady tripod.
20. "When I was first shown this picture, I too was tempted to think the purple wiggle was extraneous to the orbiter until I realized the orbiter did not begin off the frame."

21: "If this were a picture of a nominal re-entry, the image would look the same. The colors are typical based on a review of video taken of STS-109 re-entry over Houston." Bretz, END.