

Interference with Aircraft Equipment (Sturrock Panel Report)

Peter Sturrock / Sturrock Panel Report / Physical Evidence Related to UFO Reports

Summary: Richard Haines presented a summary of his extensive research into pilot-UFO-sighting reports. He now has a catalog of over 3,000 pilot reports, of which approximately 4% involve transient electromagnetic effects allegedly associated with the presence of strange objects. Another catalog of aircraft-UFO-encounter cases (referred to by Velasco in Section 5) is being compiled by Weinstein (1997) as a GEPAN/SEPRA project; this catalog currently contains several hundred aircraft-UFO-encounter cases.



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Haines pointed out some of the reasons that make pilot-UFO sighting reports especially valuable to the UFO investigator:

Pilots have received a great deal of relevant specialized training and possess practical flight experiences which better qualify them to report accurately what they see.

Pilots are highly motivated, yet do not over-react during stressful situations.

Pilots can change their flight path so as to see the ground behind the object and thereby establish

a maximum slant range to it.

Pilots can use their radio to contact ground support for further information or assistance.

Aircraft have a wide variety of instruments that react differently to electromagnetic radiation.

Nevertheless, according to Haines, even an experienced pilot can be deceived by some of the unusual phenomena listed in Appendix 3.

Haines focused on cases that appear to involve transient electromagnetic (EM) disturbances that occur only while one or more objects are seen flying near the airplane and which return to normal as soon as the object departs (Haines 1979; 1992). Haines has compiled a catalog of 185 such EM events which occurred over a 51-year period (1944-1995), and has developed a taxonomy of electrical-system malfunctions on modern airplanes with which to categorize and better understand them. The largest category of effects is airborne radar contact, while the second largest category is radio interference or complete but temporary radio failure.

Haines discussed two pilot reports in detail, one of which was an interesting case that occurred at 2105 EST on March 12, 1977 between Buffalo and Albany, New York, that involved United Airlines flight 94, a nonstop flight from San Francisco to Boston. The DC-10 airplane was under the control of autopilot system #2 and was flying at 37,000 feet altitude. The entire sky was dark and clear ahead and above the airplane, except for a partial undercast with small clouds extending to about 20 miles ahead. The aircraft was flying at an indicated air speed of 275 knots (true air speed 530 knots). The aircraft was about half way between Buffalo and Albany, and had just changed from contact with the "FROM" VOR (Very-High-Frequency Omni-directional Bearing) signal emanating from Buffalo to the "TO" signal from Albany. The aircraft was just south of Syracuse, New York.

Suddenly and unexpectedly, the airplane began to turn to the left, making a 15 degree bank. Within a few seconds, the First Officer and the Captain looked to the left side of their plane and saw an extremely bright white light at about their own altitude. Subsequently, the Flight Engineer also looked and saw the light source. It appeared to be perfectly round and its apparent diameter was about 3 degrees of arc. However, the Captain estimated the object to be about 1,000 yards away and to be about 100 feet in size, that corresponds to an angular size of 2 degrees. "Its intensity was remarkable — about the intensity of a flashbulb," he remarked. Boston ATC radioed to ask "United 94, where are you going?" The Captain replied "Well, let me figure this out. I will let you know." He then noticed that the three cockpit compasses (that use sensors in different parts of the plane) were all giving different readings. At this point, the Copilot turned off the autopilot and took manual control of the airplane.

Based upon the fact that the object did not move laterally in the cockpit window during the 45 degree left heading change and from knowledge of the turn radius of this airplane at its stated velocity, Haines calculated the approximate distance to the object to be about 10 nautical miles. If the pilot's angular size estimate for the object is accurate, this suggests that the light source was about 2100 feet across. The object appeared to stay with the airplane for 4 to 5 minutes, after which it departed very rapidly, disappearing within about 15 seconds behind them to the west.

The Captain asked ATC if they had any radar traffic in that area and received a negative reply.

The navigation system involves two gyro-suspended compasses, each coupled to a special circuit with a "mismatch enunciator flag." If the readings from the two compasses differ by 3 degrees or more, the autopilot should automatically disengage and the mismatch enunciator flag should be displayed (Powell, 1981). This forces the pilot to take manual control of the airplane. However in this event the readings on the two compasses differed by more than 3 degrees yet the airplane remained on autopilot and the mismatch enunciator flag was not displayed.

Haines reviewed several possible interpretations of this event (cf. Perry & Geppert, 1997). It seems most probable that the malfunction of the three compasses was due to a transient perturbing magnetic field that disturbed the two primary magnetic compasses, the sensor on the wing tip nearest the object (which was controlling the active autopilot at the time) being disturbed more than the other wing-tip sensor. Upon landing, the compasses were checked and found to be in normal operating condition.

In responding to this presentation, the panel took the position that evidence of interference with aircraft equipment is interesting but, in the absence of corroborative data from flight recorders and other mechanical or electrical recording equipment, the evidence presented must be regarded as anecdotal. It is quite possible that the persons making the report summarized above did indeed see unusual and striking phenomena. It does appear that the airplane departed from its normal flight path, but this could have happened for a variety of reasons. As with reports related to other categories of physical evidence, the evidence summarized in this section should be regarded as suggestive but far from sufficient to establish any actual physical linkage between the reported luminous phenomenon and the airplane's flight deviation. In order to improve our understanding of these phenomena, it will be necessary to establish more definite facts from the case work. To this end, there should be strong efforts to quantify the observations and to obtain multiple measurements of the same event, and investigators should bring a critical attitude to the compilation and analysis of the data.