

SPACE DEBRIS SYMPOSIUM (A6)
Operations in Space Debris Environment, Situational Awareness (7)

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DISSECTING SPACE DEBRIS EVENTS

Abstract

Over the past year, there have been three occasions where apparently operational spacecraft spontaneously produced debris. In each case, the first indication of a debris event was the release, via Space Track, of a number of TLEs associated with a particular launch—with no further information indicating the source or cause of the debris. It is then left to the analyst to determine the source of the debris, the time of the event, and to attempt to discern whether the debris was produced as the result of a collision or explosion. This paper will examine the three events—involving IRIDIUM 47, IRIDIUM 91, and DMSP 5D-2 F13—to demonstrate how to glean the circumstances of the event from the data and examine the implications for mitigating future events.