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Title : Characteristics of Upper Atmosphere Barium, Trimethylaluminum, Diborane and Lithium Releases, 1969.

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Corporate Author : AIR FORCE CAMBRIDGE RESEARCH LABS L G HANSCOM FIELD MASS

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Abstract : The report summarizes the flight and engineering aspects of rocket launches made by the Chemical Physics Branch (USAF Project 7635) during the calendar year 1969, inclusive of TMA vapor release system development flights since 1966, for the purpose of releasing chemicals in the atmosphere at high altitudes. Chemical releases provide means for modification of the upper atmosphere, as well as data on atmospheric dynamics and ionospheric properties from which quantitative understanding of increasing accuracy is derived. Results of this research are relevant to the solution of current Air Force problems, such as the precise prediction of the motion of operational satellites and nuclear debris, or the assessment of the effects of solar bursts and nuclear detonations on the propagation of electromagnetic waves through the ionosphere. The four basic experimental release systems, barium, trimethylaluminum, diborane, and lithium, are designated as individual sections. In addition, information is included regarding new instrumentation tested in some of the flights, in order to improve the acquisition capability of the tracking radar and to transmit vehicle and payload operational data. (Author)

Descriptors : (*UPPER ATMOSPHERE, *ATMOSPHERIC SOUNDING), IONOSPHERIC DISTURBANCES, SOLAR DISTURBANCES, NUCLEAR EXPLOSIONS, SOUNDING ROCKETS, BARIUM, LITHIUM, DIBORANES, TABLES(DATA)

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