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The Use of Chaff in Space as a Jamming Device between Ground Stations and Satellites

Authors: [Alan R. Sterns](#); [AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF ENGINEERING](#)

Abstract: This study predicts the time evolution of the attenuation characteristics of a **chaff** cloud deployed in orbit around the earth. The study consists of three parts: applying the statistical mechanics solution of a satellite breakup model by William Heard of the Naval Research Laboratory, solving for particle density at any time after dispensing, and calculating the attenuation of an 8 GHz signal through the cloud. The study shows that significant levels of signal attenuation can be achieved, with attenuations of greater than -50 db lasting for several hours. Theses. (rh)

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