A HISTORICAL REVIEW OF INFLATABLE AERODYNAMIC DECELERATOR TECHNOLOGY DEVELOPMENT (IPPW-7)

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ABSTRACT

Viking-era deployable decelerator technology has been employed for several planetary probe missions at Earth and within other planetary atmospheres. Numerous system studies in the past fifty years demonstrate the benefit of developing a new decelerator technology capable of operating at higher Mach numbers and higher dynamic pressures than existing decelerators allow. The deployable Inflatable Aerodynamic Decelerator (IAD) is one such technology. This poster describes the development history of the IAD from its conception in the 1960's to the present day. Major findings in primary IAD sub-disciplines for the foremost configurations are included. Quantitative engineering data from prior testing is reproduced directly, while qualitative conclusions are referenced in the literature for further discussion. This work provides a summary of past and present IAD technology development efforts and shows data in a manner useful for today's mission designers.

[NOTE: THIS IS A STUDENT POSTER ABSTRACT]