

***Aerobraking and the "Autogen" Process:  
Automating the Operation of the Mars 2001 Odyssey***

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"The Mars 2001 Odyssey spacecraft utilized the technique of aerobraking to dramatically reduce its initial orbital period with minimal use of its propellant. The difficulty of predicting the atmospheric density of Mars, coupled with the communications lag that is characteristic of any deep space or interplanetary mission, can make operating a spacecraft during an aerobraking phase very difficult. This paper outlines a strategy called "autogen" which was successfully implemented to dramatically simplify and automate the commanding of the Mars 2001 Odyssey spacecraft throughout its aerobraking phase."