THRUST BALANCE FOR TESTING MICROTHRUSTERS

Antonio Luis da Silva Guimarães
Laboratório de Combustão e Propulsão
INPE/Cachoeira Paulista - SP.

The impulse is an important parameter for the design and qualification of propulsion systems that are used for orbit and attitude control of satellites. In These systems. the thrusters develnp a verv low thrust (0.5 to 20.0 Newtons) and operate either in a continuous or pulse modes with pulses on the order of 5 milliseconds.

One of the wavs to determine the impulse is by means of integrating the thrust developed in a certain interval of time This is done bv measuring the thrust with a trasducer coupled to some kind of recording device

In this work the design of a thrust balance for use in the 4 to 100% range is presented This stand will be used in the test of both hydrazine and bipropellente microthrusters currently undergoing development for the MECB satellite project