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Force Limits Measured on a Space Shuttle Flight

Random vibration forces have been successfully measured between a Hitchhiker canister and the sidewall of the space shuttle on mission STS-96. The measured forces and accelerations are compared with the acceleration and force specifications used in the ground random vibration tests of the canister. The flight data are in agreement with the semi-method used to predict the vibration test force limits with a coefficient of $C = 2$. These data are consistent with the flight data presented previously for an expendable launch vehicle in the paper: ESA SP-428, ECSSM&MT, Braunschweig, GR, 1999.