

SPIRE-MSS-COM-001058

From: Berend Winter [bw@mssl.ucl.ac.uk]
Sent: 11 December 2001 14:34
To: Dominique POULIQUEN
Cc: RAL Eric Sawyer; RAL Judy Long
Subject: Re: Herschel/SPIRE updated sine spec for Smec

Hello Dominique, I am happy with that specification. You may want to drop the request for the quasi-static analysis, is covered by sine loads. Should save you some money. Then again, it gives some insight into the strength of the Smec, without being influenced by a dynamic component. Your choice.

The reason the start of the Y-axis definition is lower than the 50-100 Hz requirement is due to the fact that above 50 Hz the instrument response starts to ramp-up. All in all, as it stands the random loads are driving the strength design of your sub-system... With ESA we agreed on a 4-sigma value for random.

Cheers, Berend

----- Original Message -----

From: "Dominique POULIQUEN" <dominique.pouliquen@astrsp-mrs.fr>
To: "Berend Winter" <bw@mssl.ucl.ac.uk>
Sent: Tuesday, December 11, 2001 1:31 PM
Subject: Re: Herschel/SPIRE updated sine spec for Smec

Berend,

Just for you to check once more, I send you attached the table of the levels (in french) I intend to give to BE System. I notice that for the Y axis, the 5-50Hz level is lower than the 50-100 Hz, contrary to the X-Axis.
Ok for the random? the quasi static?

Best regards,

Dominique.Pouliquen

A 12:37 11/12/2001 -0000, vous avez écrit :

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Hello Dominique,

As promised updated sinespec.

Your qualification loads are:

X-axis

5- 40 Hz 30 g or 22 mm peak-peak at lower frequencies (whichever is less worse)

40 100 Hz 20 g

Y-axis

5-50 Hz 20 g or 22 mm peak-peak at lower frequencies (whichever is less worse)

50-100 Hz 25 g

Z-axis

5-100 Hz 20 g or 22 mm peak-peak at lower frequencies (whichever is less worse)

As discussed over the phone the 22 mm peak-peak limitation has to do with the actual vibration test. Not many shakers have a stroke of more than 22 mm p-p.

These are your qualification test levels (2 oct/min) they exceed the quasi-static loads so there is no need for a separate quasi-static test. The reason that the sine spec is higher than the quasi-static spec is the fact that the structure is already ramping up the sine response curve at 100 Hz (first modes located at 120-150 Hz) and the sine input for the instrument is the quasi-static input (notched on I/F forces)

Cheers, Berend

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