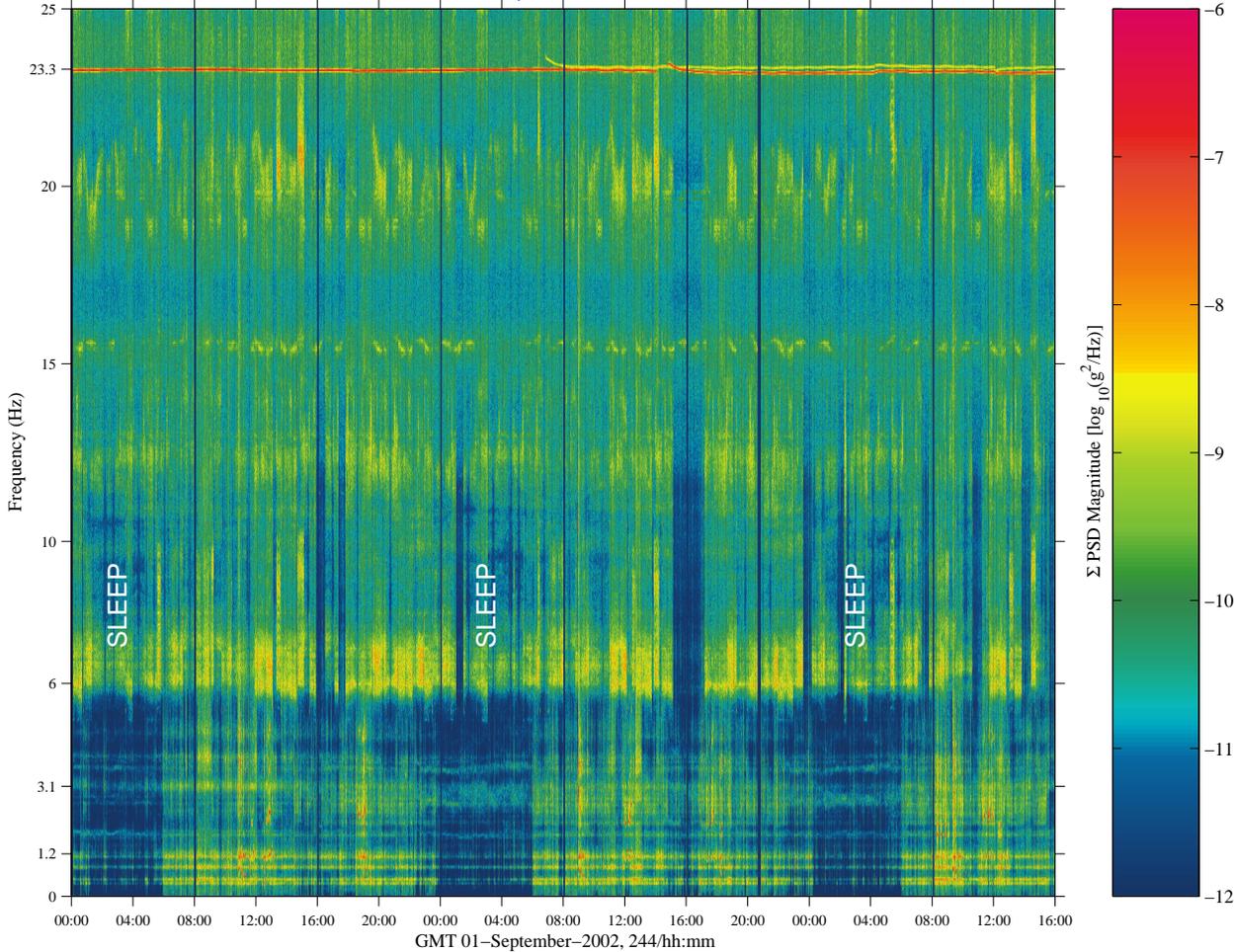


# Sleep/Wake QUALIFY

sams2, 121f03 at LAB101, ER2, Lower Z Panel[191.54 -40.54 135.25]  
 62.5 sa/sec (25.00 Hz)  
 Δf = 0.031 Hz, Nfft = 2048  
 Temp. Res. = 32.768 sec, No = 0

SAMS 121f03

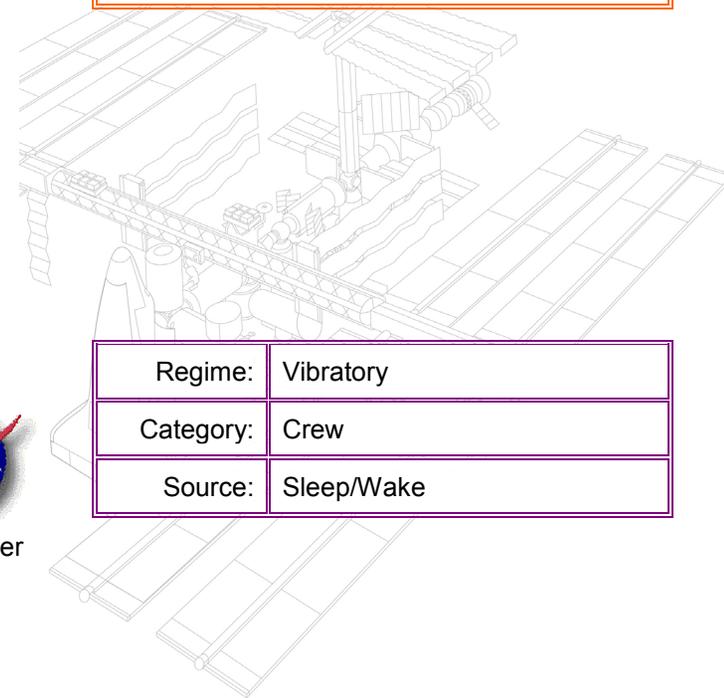
Start GMT 01-September-2002, 244/00:00:00



from: t:\pub\padl\_SName: S\_30-Dec-2002,12:15:54.735

Data Description	
Sensor	121f03 62.5 sa/sec (25.00 Hz)
Location	LAB101, ER2, Lower Z Panel
Inc/Flight	Increment: 5, Flight: UF2
Plot Type	spectrogram

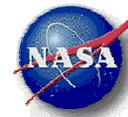
**Notes:**  
 This figure shows 3 sleep periods over a 64-hour span. The impact of crew wake periods relative to sleep is primarily below about 6 Hz. This is seen as a shift toward the blue end of the PSD magnitude color scale below about 6 Hz during the 3 sleep periods. The transition from sleep to wake is typically a sudden event owing to a wake alarm, while the transition from wake to sleep is gradual as might be expected. Signatures for both Russian air conditioners (SKV-1 and SKV-2) are also seen here toward the top of this figure at about 23.3 Hz. The slightly lower frequency and more intense SKV is on for this entire 64-hour duration, while the other one starts just after the end of the 2<sup>nd</sup> sleep period.



Regime:	Vibratory
Category:	Crew
Source:	Sleep/Wake



Microgravity Science Division



Glenn Research Center

# Sleep/Wake QUANTIFY

sams2, 121f03 at LAB1O1, ER2, Lower Z Panel:[191.54 -40.54 135.25]

62.5 sa/sec (25.00 Hz)

$\Delta f = 0.031$  Hz, Nfft = 2048

Temp. Res. = 32.768 sec, No = 0

Sleep/Wake,  $0 < f < 6$  Hz

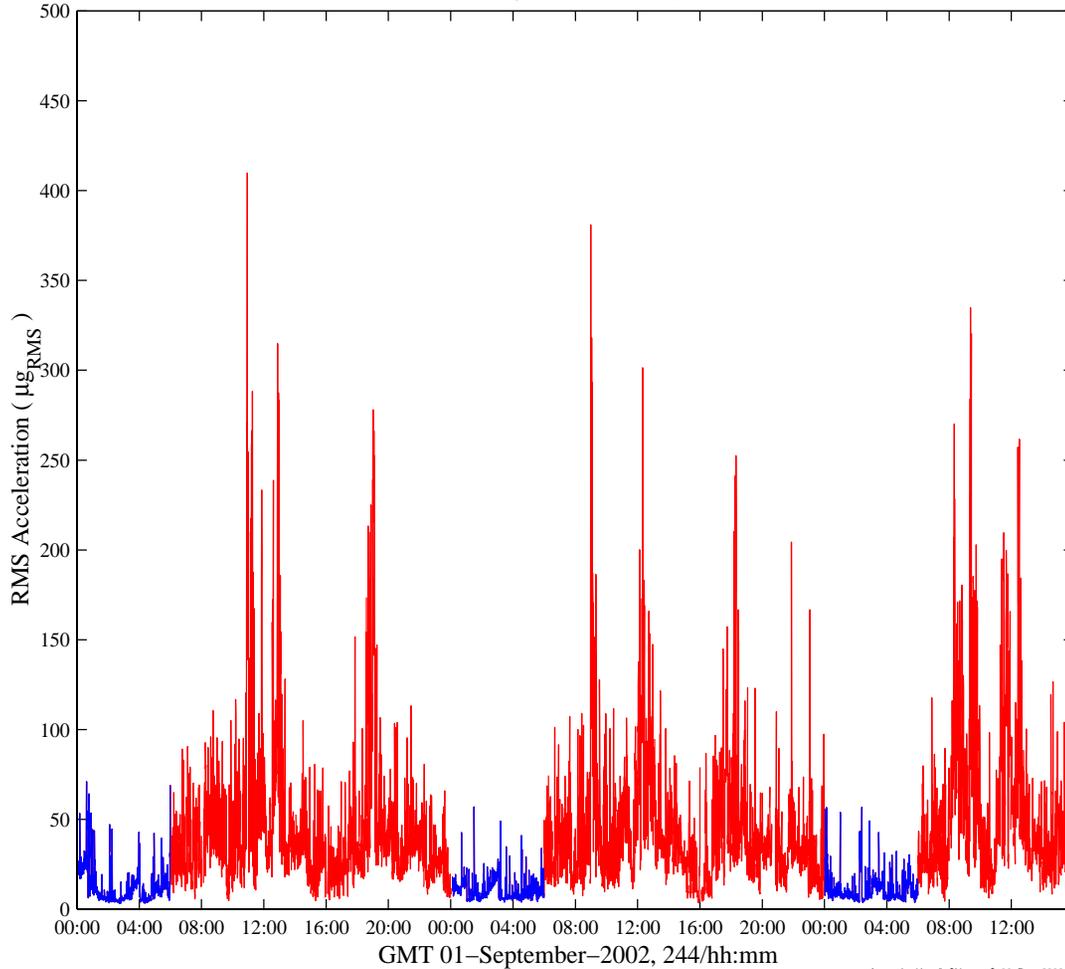
Start GMT 01-September-2002, 244/00:00:00

Increment: 5, Flight: UF2

Sum

Hanning, k = 6801

Span = 64.06 hours



from: t:\pub\pad\, \$Name: \$, 30-Dec-2002, 12:15:54.735

Data Description	
Sensor	121f03 62.5 sa/sec (25.00 Hz)
Location	LAB1O1, ER2, Lower Z Panel
Inc/Flight	Increment: 5, Flight: UF2
Plot Type	interval RMS

### Notes:

The plot shows interval RMS values during a 64-hour period for the frequency band below 6 Hz. This is the portion of the acceleration spectrum that shows contrast between crew sleep and wake periods. Statistics gathered for this time frame show:

#### SLEEP

95<sup>th</sup> percentile: 25.8  $\mu\text{g}_{\text{RMS}}$

**median:** 8.4  $\mu\text{g}_{\text{RMS}}$

mean: 11.2  $\mu\text{g}_{\text{RMS}}$

#### WAKE

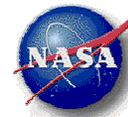
95<sup>th</sup> percentile: 123.6  $\mu\text{g}_{\text{RMS}}$

**median:** 34.9  $\mu\text{g}_{\text{RMS}}$

mean: 46.0  $\mu\text{g}_{\text{RMS}}$



Microgravity Science Division



Glenn Research Center

PIMS ISS Acceleration Handbook  
Date last modified 12/31/02

Regime:	Vibratory
Category:	Crew
Source:	Sleep/Wake