Wind noise reduction in a non-porous subsurface windscreen

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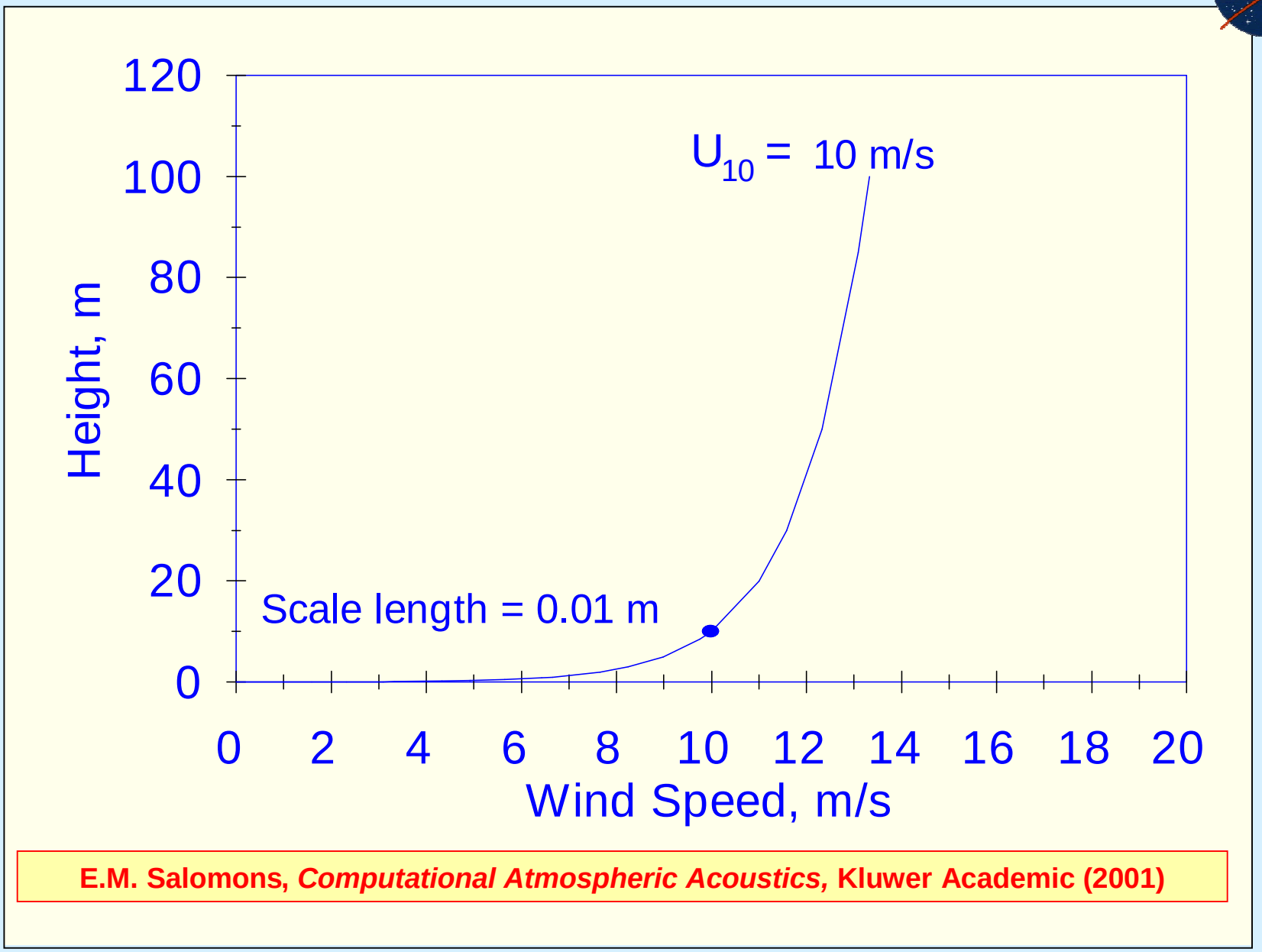
164th Meeting of the Acoustical Society of America

October 22, 2012

Profile of horizontal wind

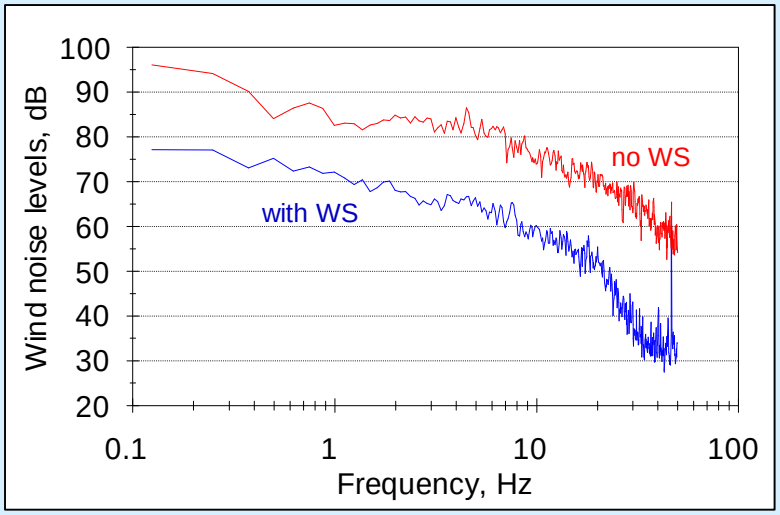


E.M. Salomons, *Computational Atmospheric Acoustics,* Kluwer Academic (2001)

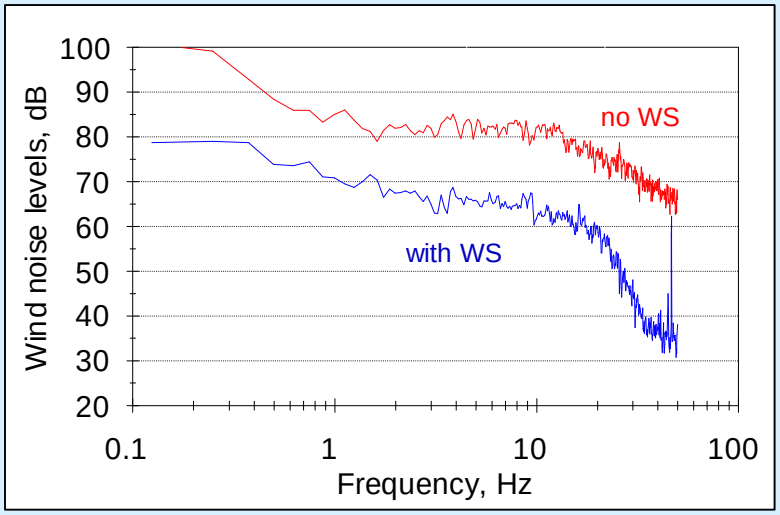
Test configurations

Wind noise levels: 8 lb foam

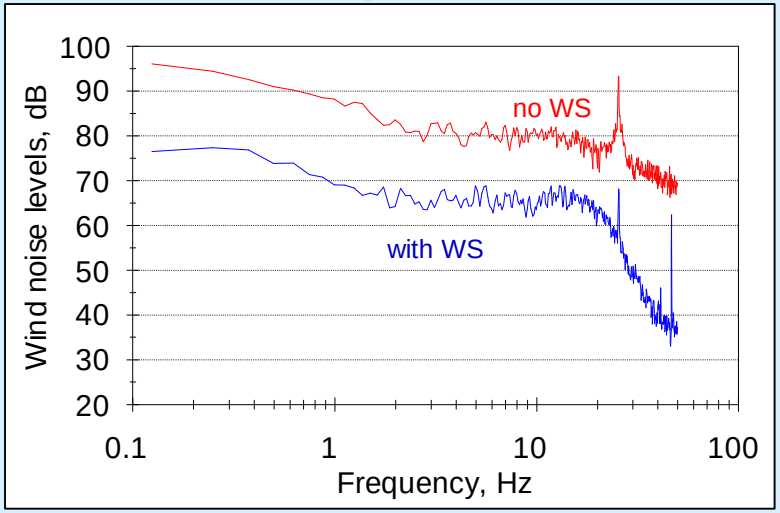
Wind speed 3 m/s



Wind speed 5 m/s

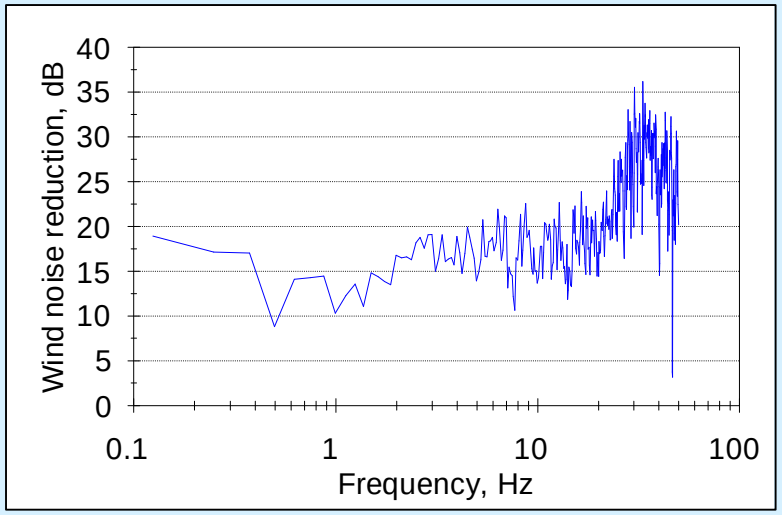


Wind speed 7 m/s

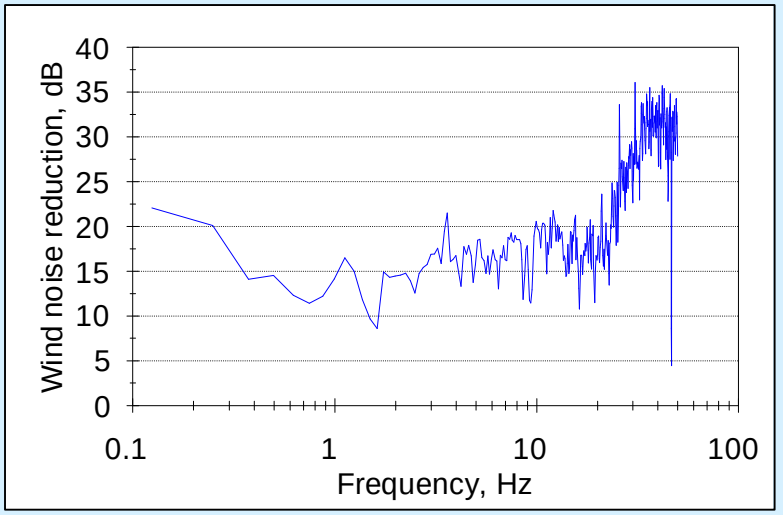


Wind noise reduction: 8 lb foam

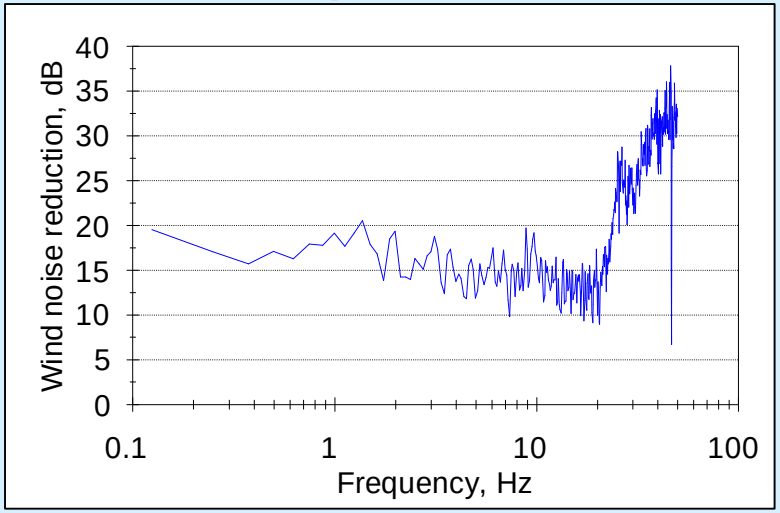
Wind speed 3 m/s



Wind speed 5 m/s

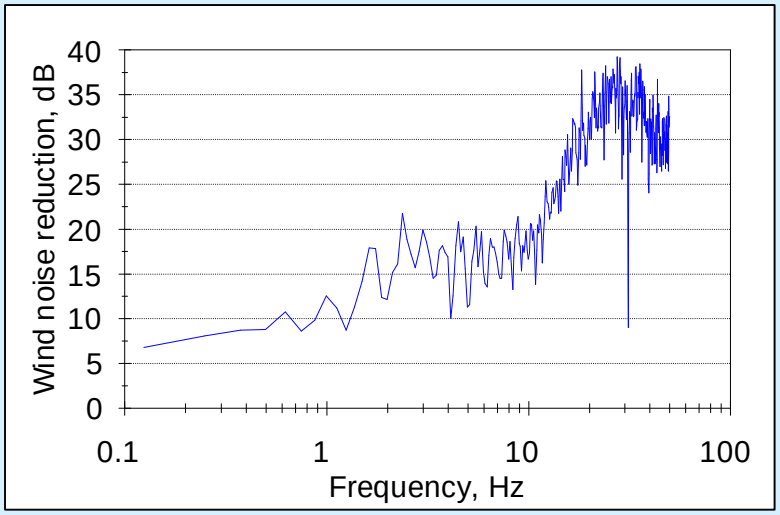


Wind speed 7 m/s

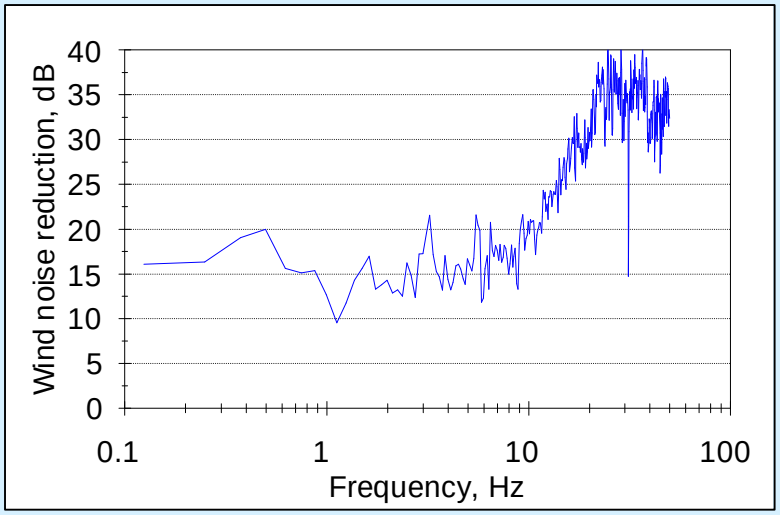


Wind noise reduction: 4 lb foam

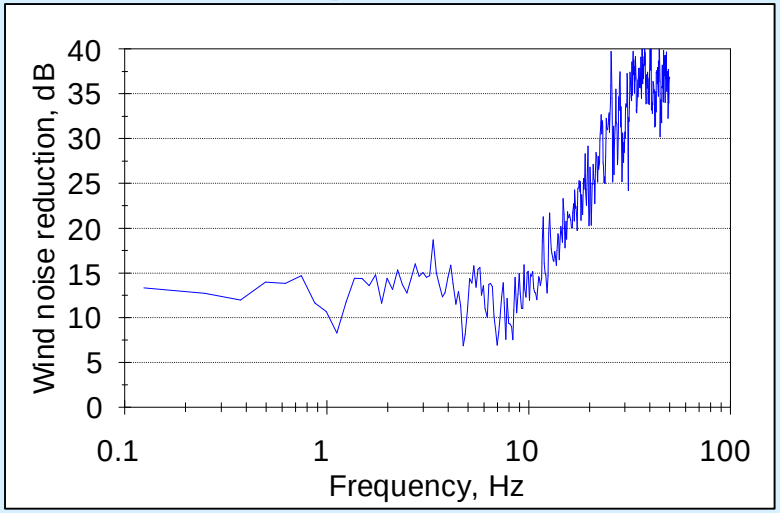
Wind speed 3 m/s



Wind speed 5 m/s

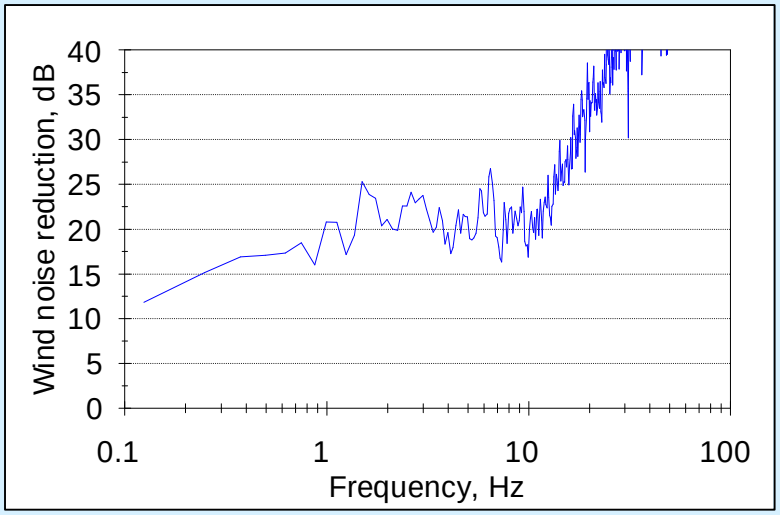


Wind speed 7 m/s

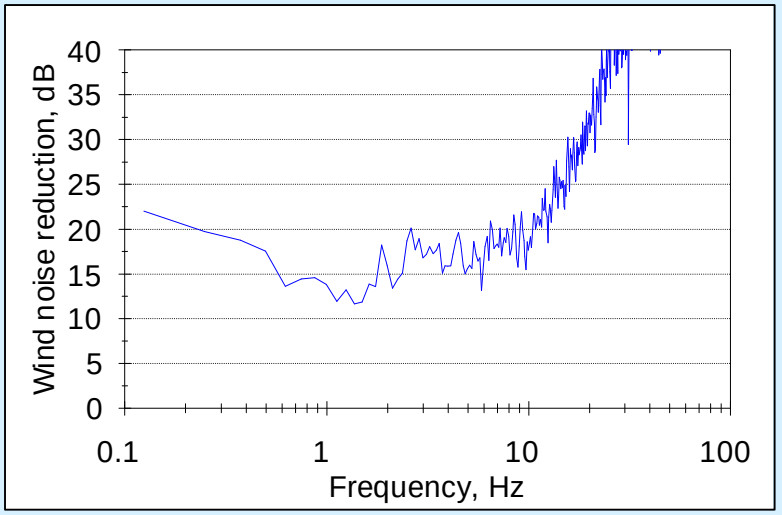


Wind noise reduction: 15 lb foam

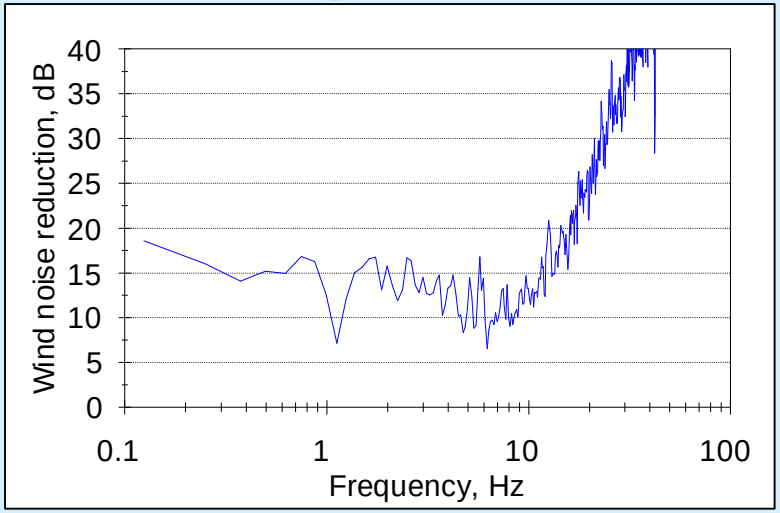
Wind speed 3 m/s



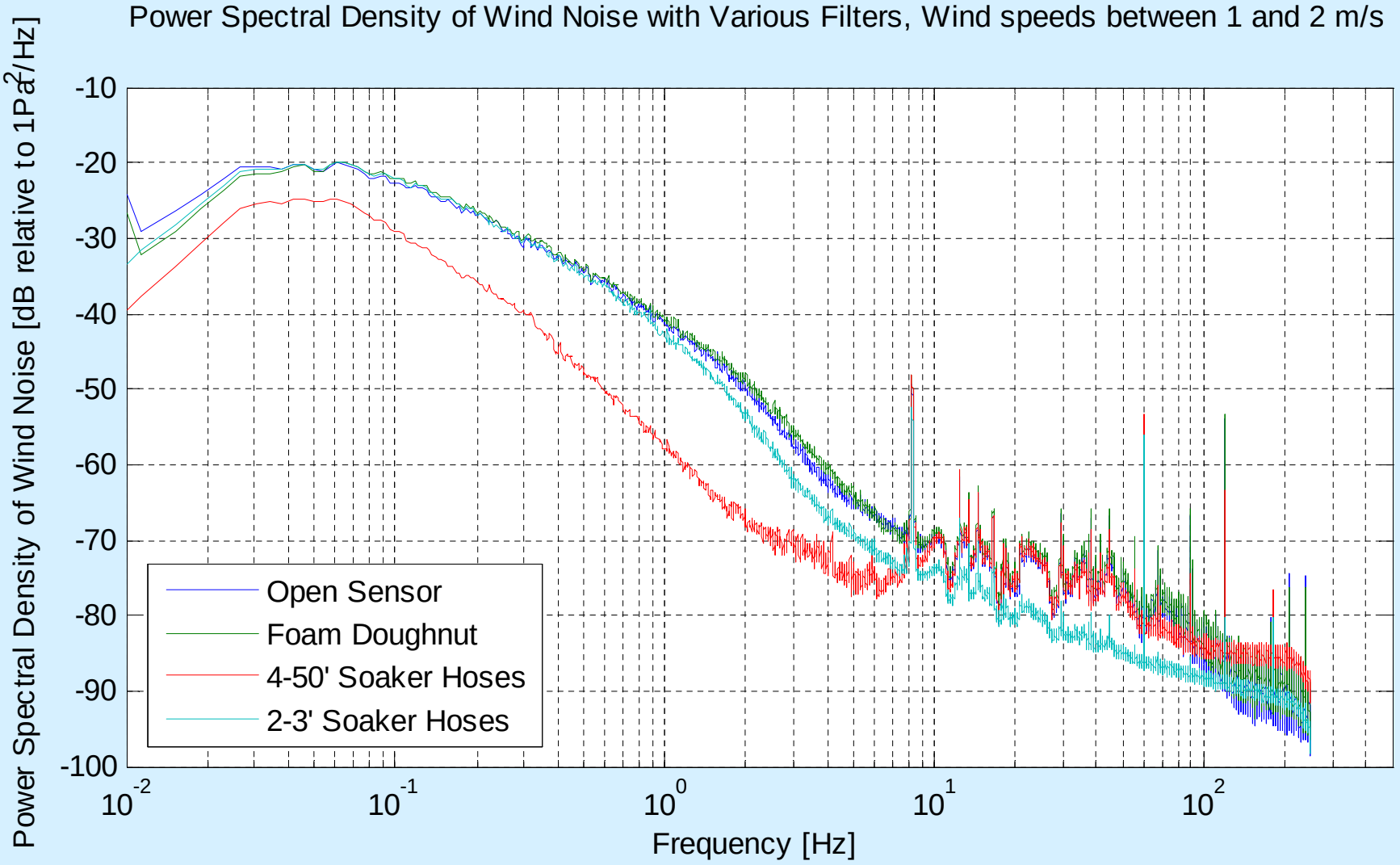
Wind speed 5 m/s



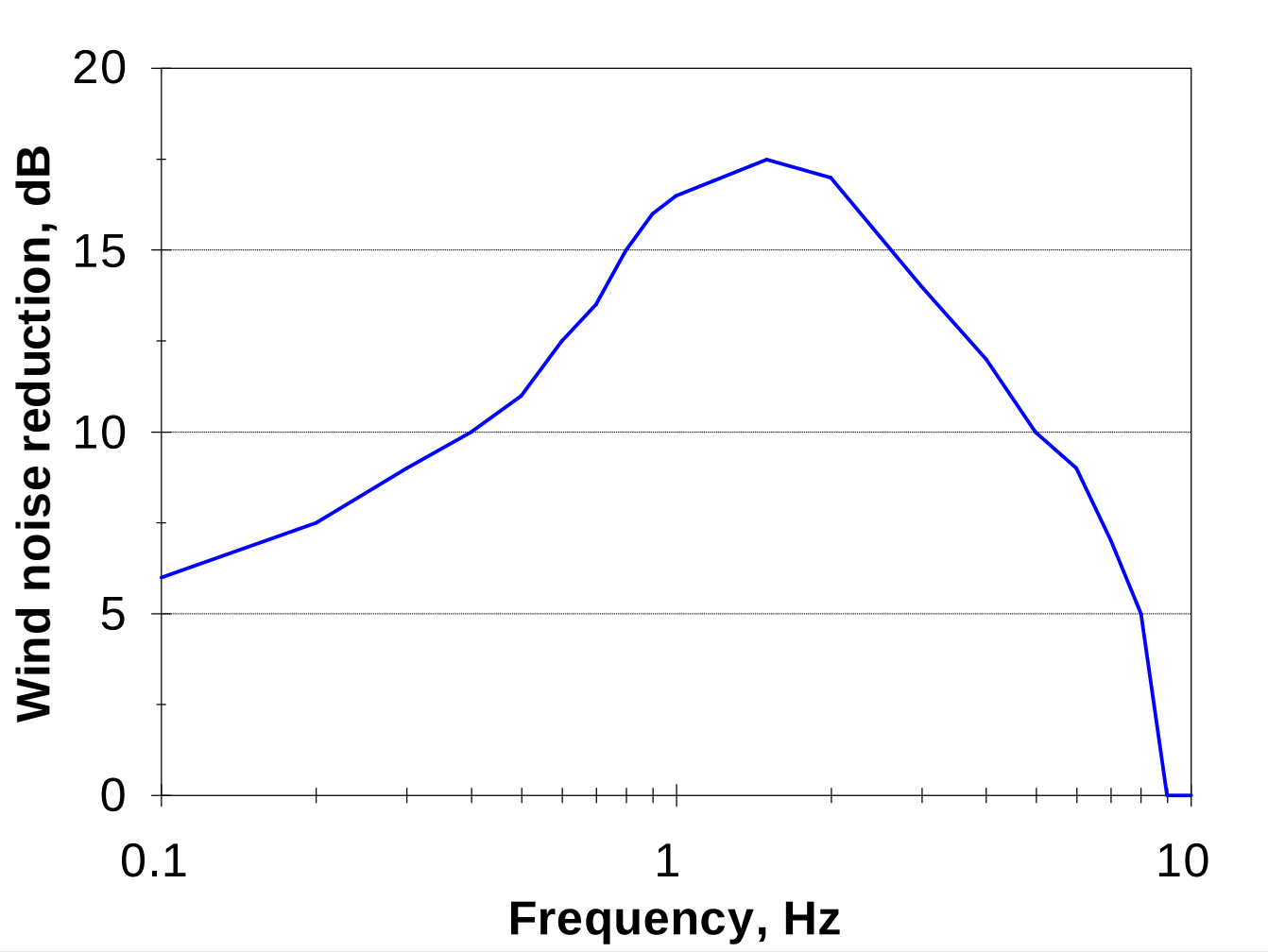
Wind speed 7 m/s



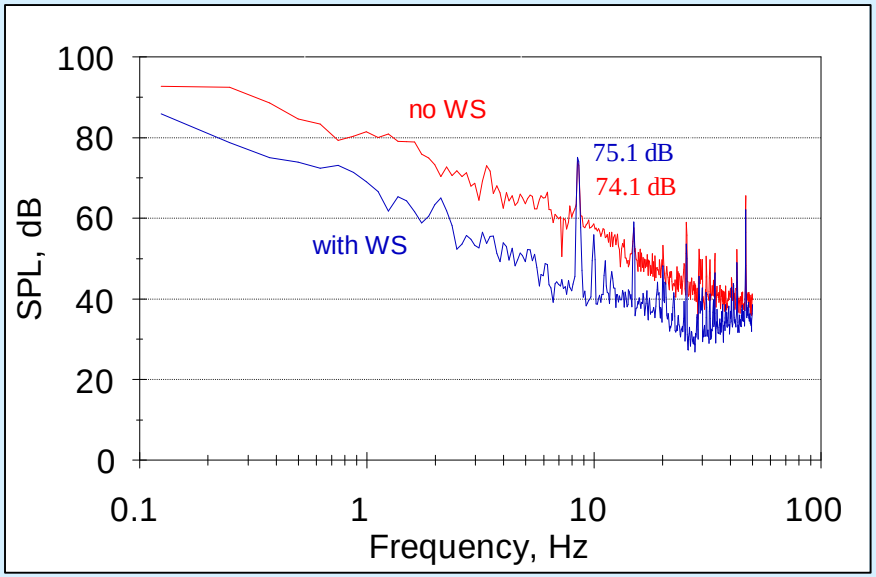
Wind Noise Reduction: Chaparral Physics
Helmericks, Marriott, & Olson 2008



Wind noise reduction: Chaparral Physics
4 x 50 ft soaker hoses



Transmission test: 8 lb foam



Frequency: 8.55 Hz

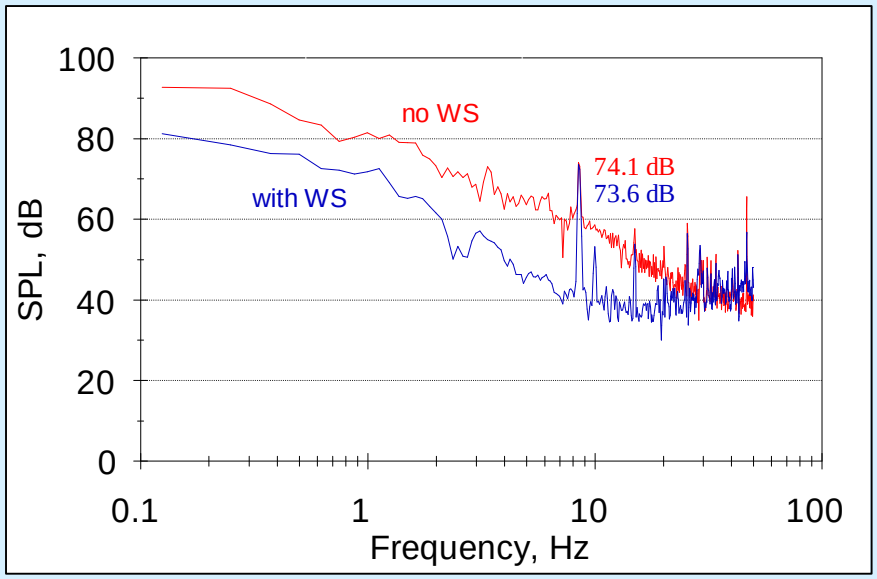
SPL @ 1 m: 101 dB

Distance to WS: 21.3 m (70 ft)

Net gain 1.0 dB

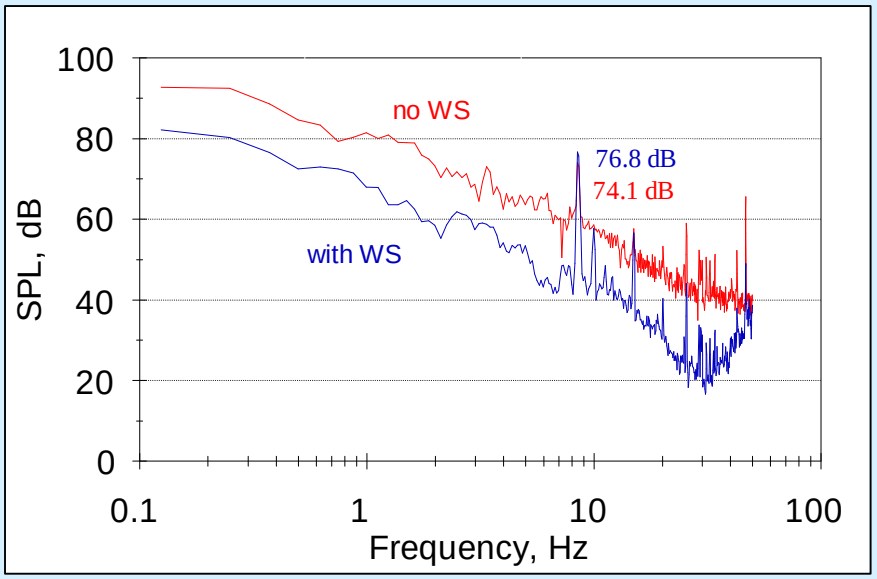
Transmission test

4 lb foam



Net gain -0.5 dB

15 lb foam



Net gain 2.7 dB

Summary: wind noise reduction

Wind speed m/s	Wind noise reduction, dB (mean 0.1-10 Hz)			
	4 lb foam	8 lb foam	15 lb foam	4 x 50-ft soaker hose
1-2				10.4
3	15.8	16.6	20.5	
5	16.4	16.1	17.2	
7	12.7	15.6	12.6	

Summary: transmission thru windscreen @ 8.55 Hz

Transmission gain, dB			
4 lb foam	8 lb foam	15 lb foam	4 x 50-ft soaker hose
-0.5	+1.0	+2.7	?