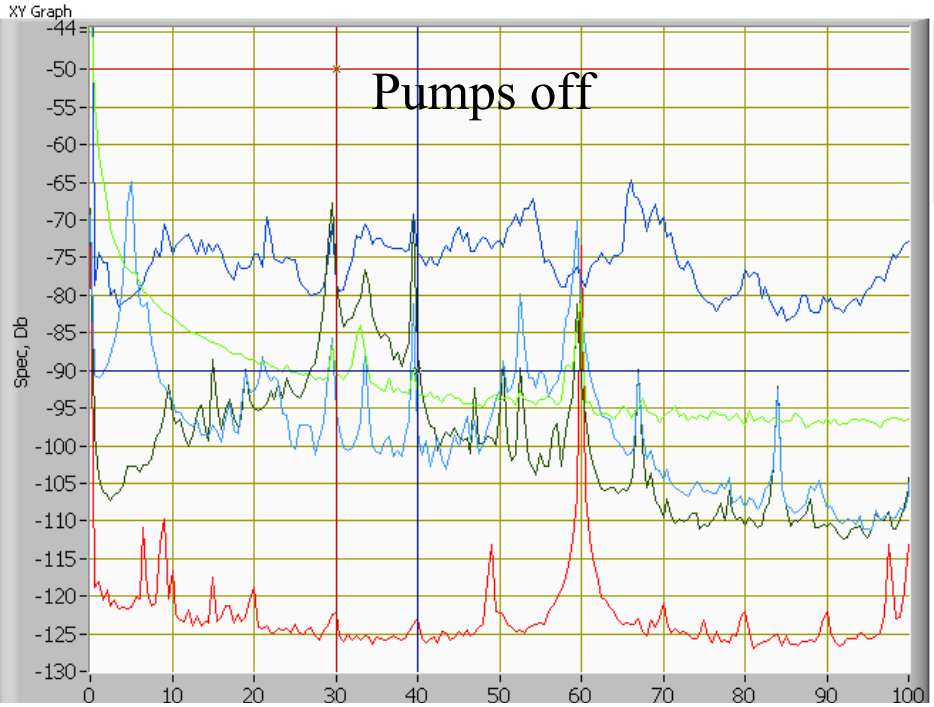
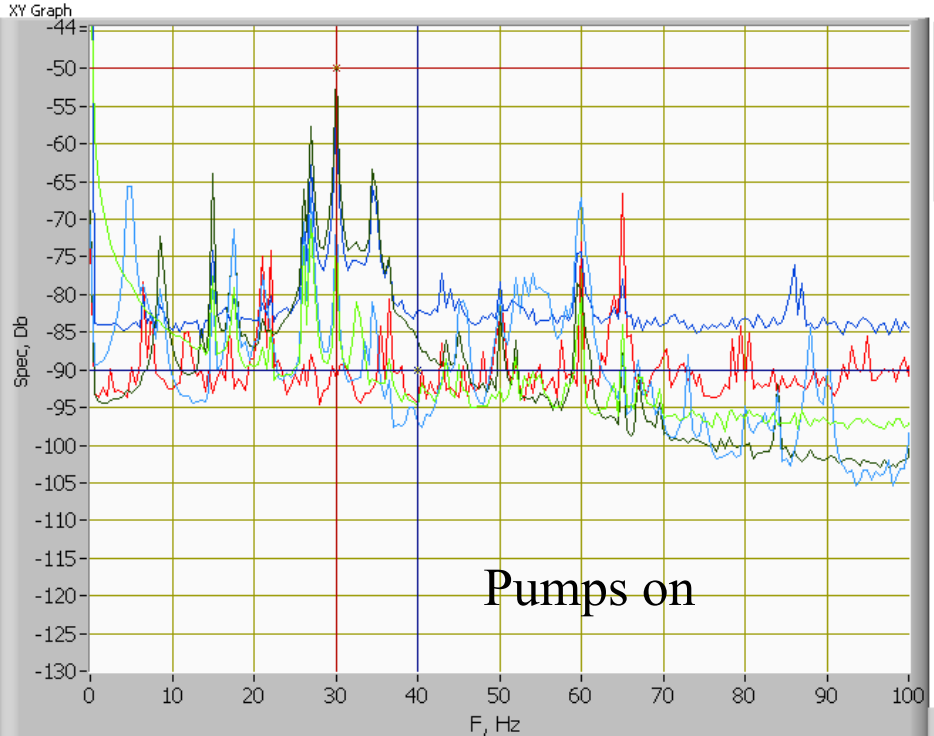
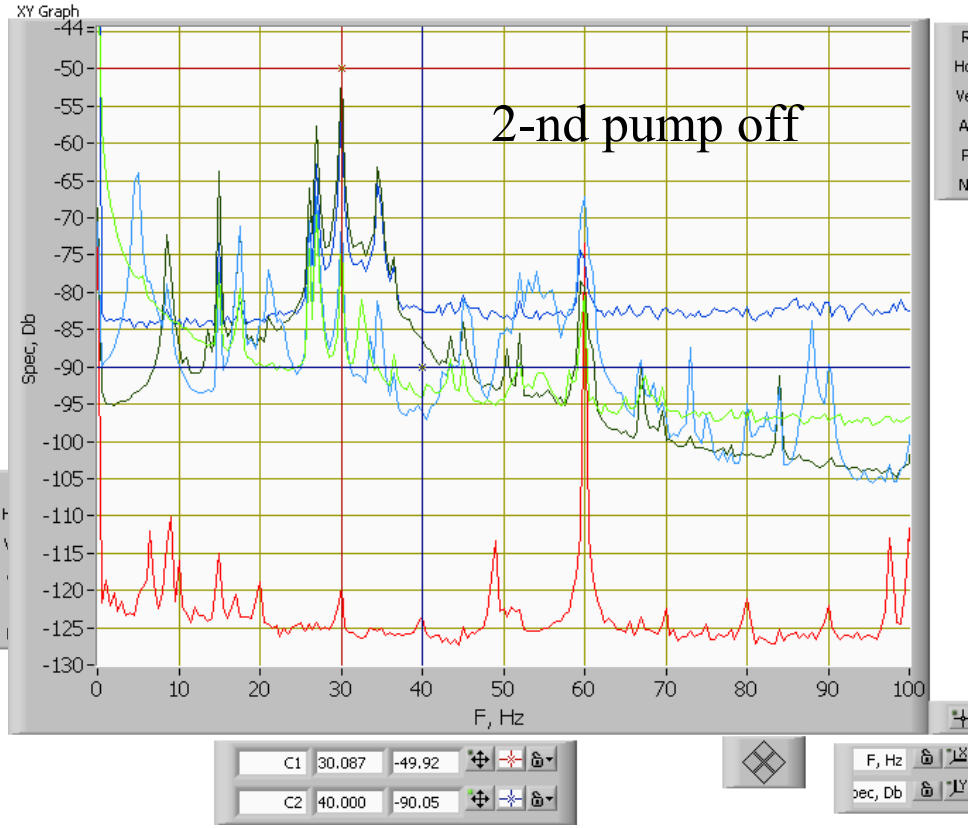
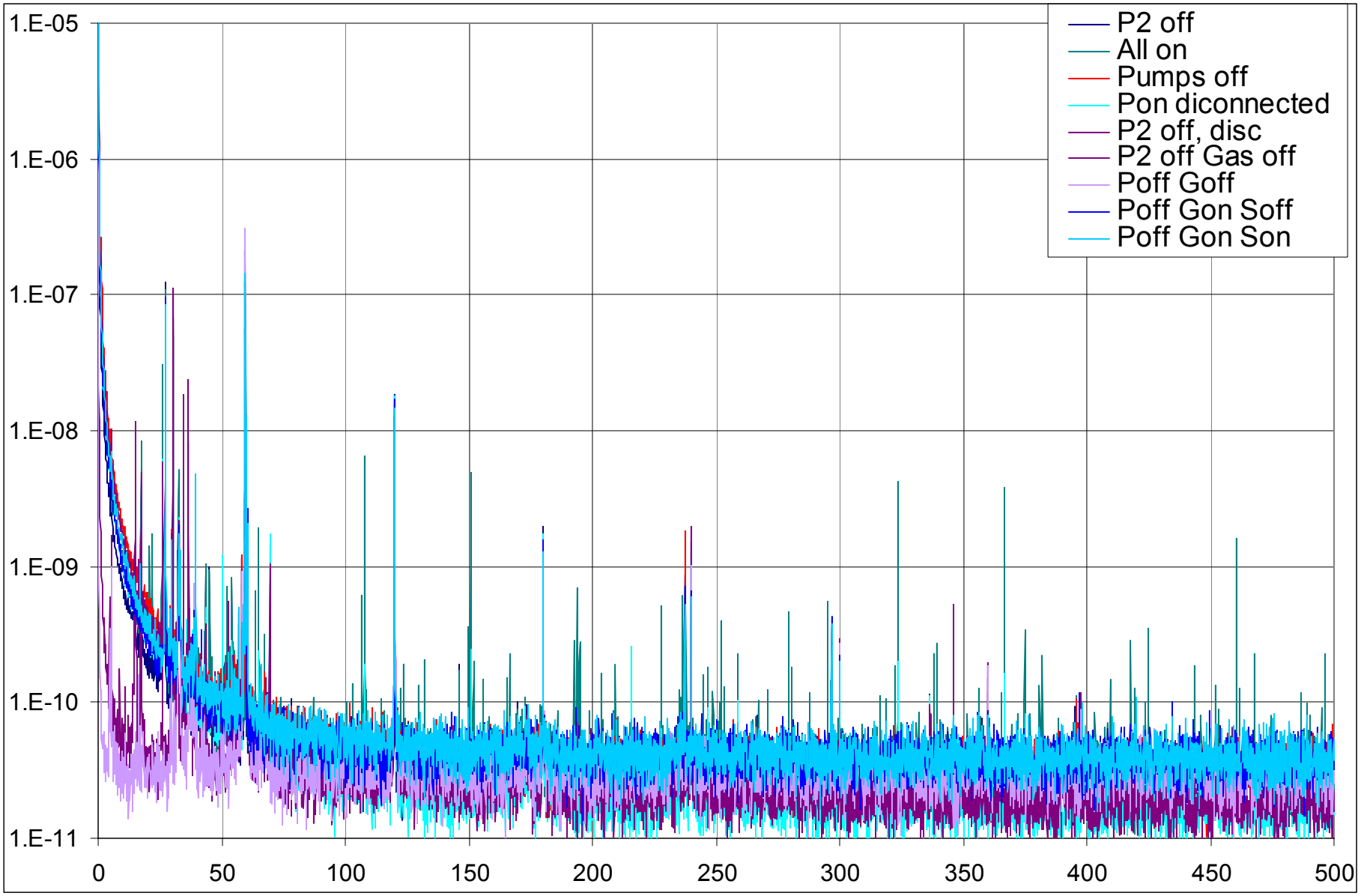




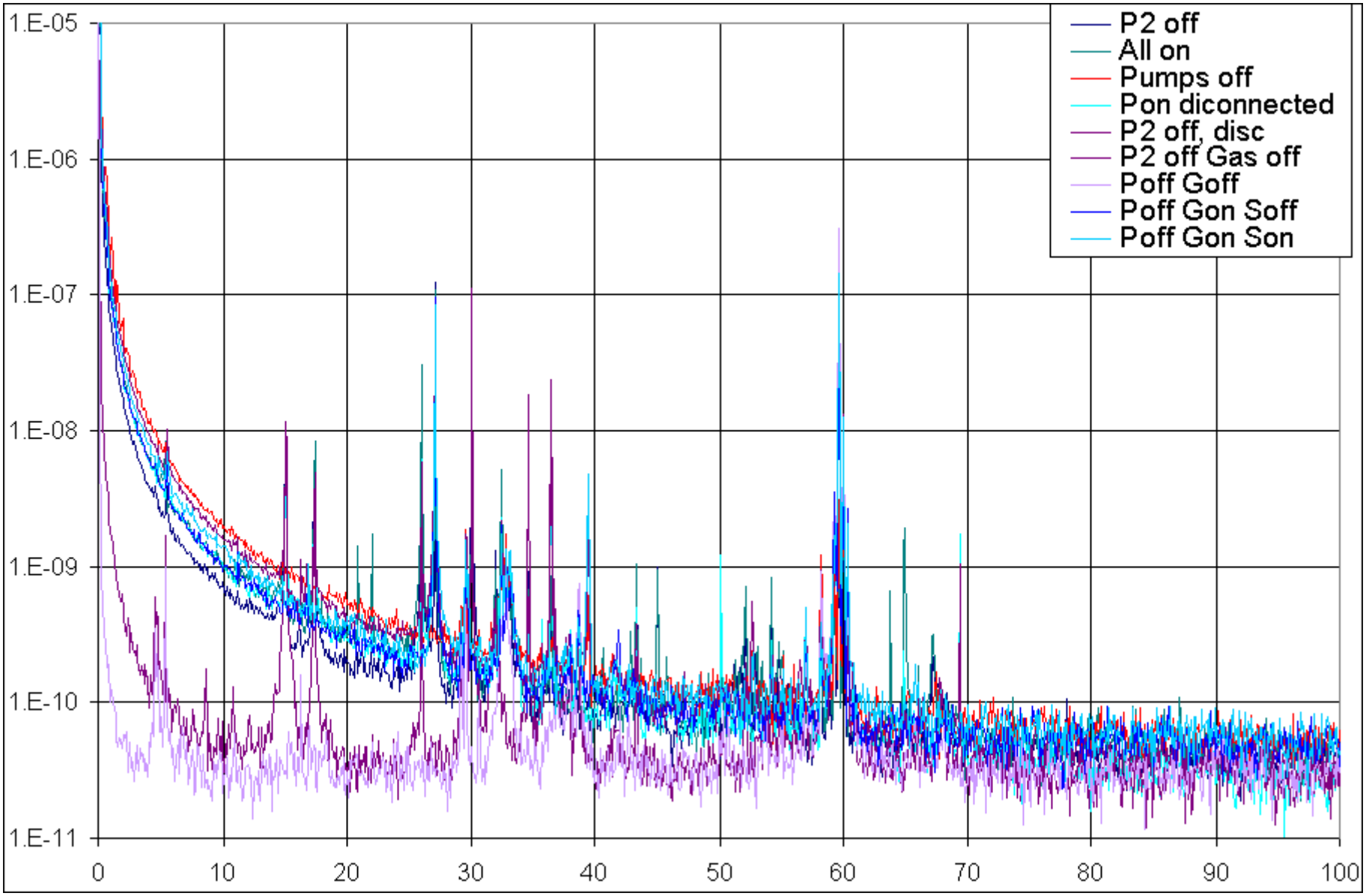


These pictures shows interference of frequency converter of Pump2 to noise level of Piezo sensor

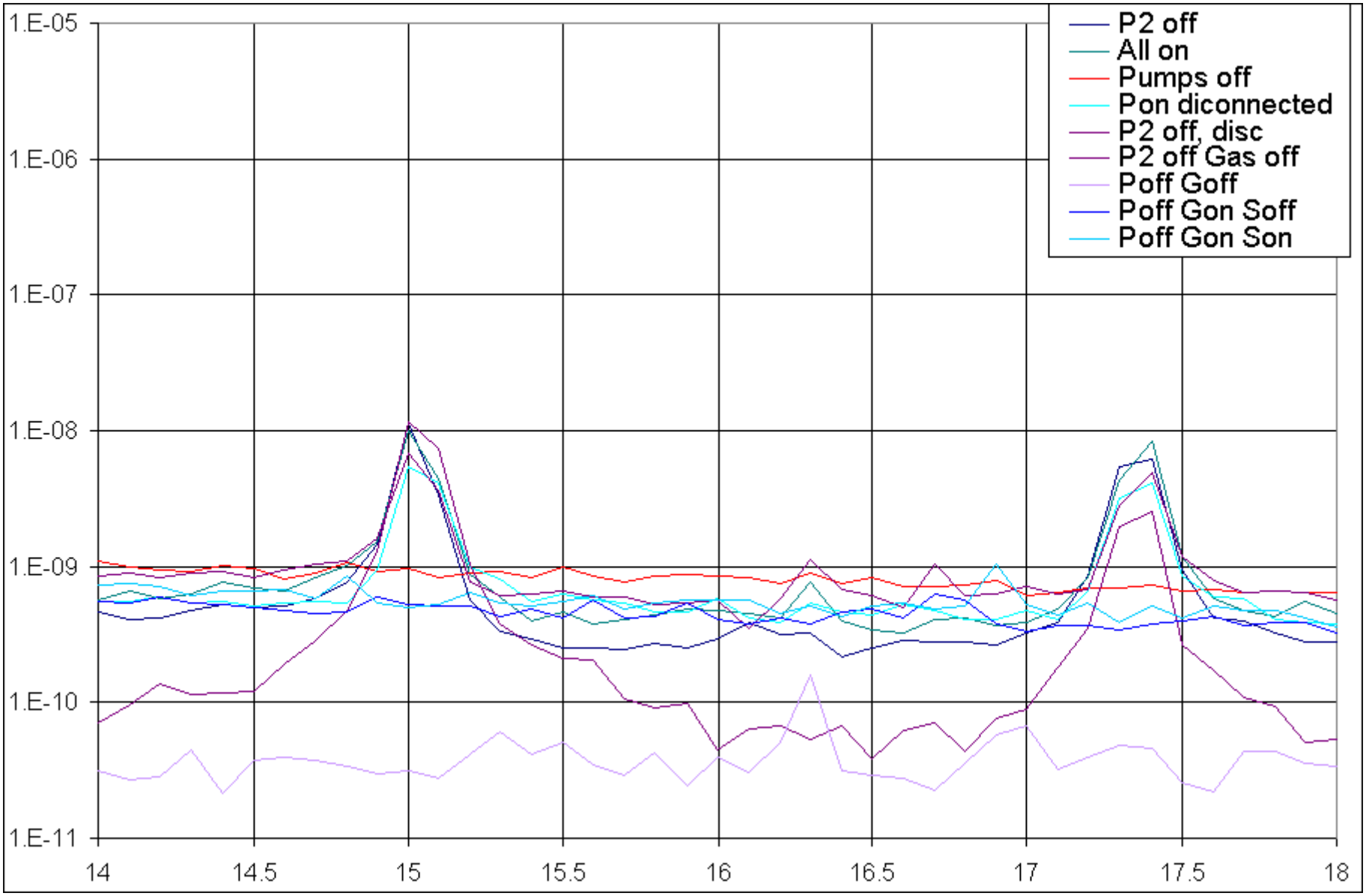
RF phase detector signal power spectrum.



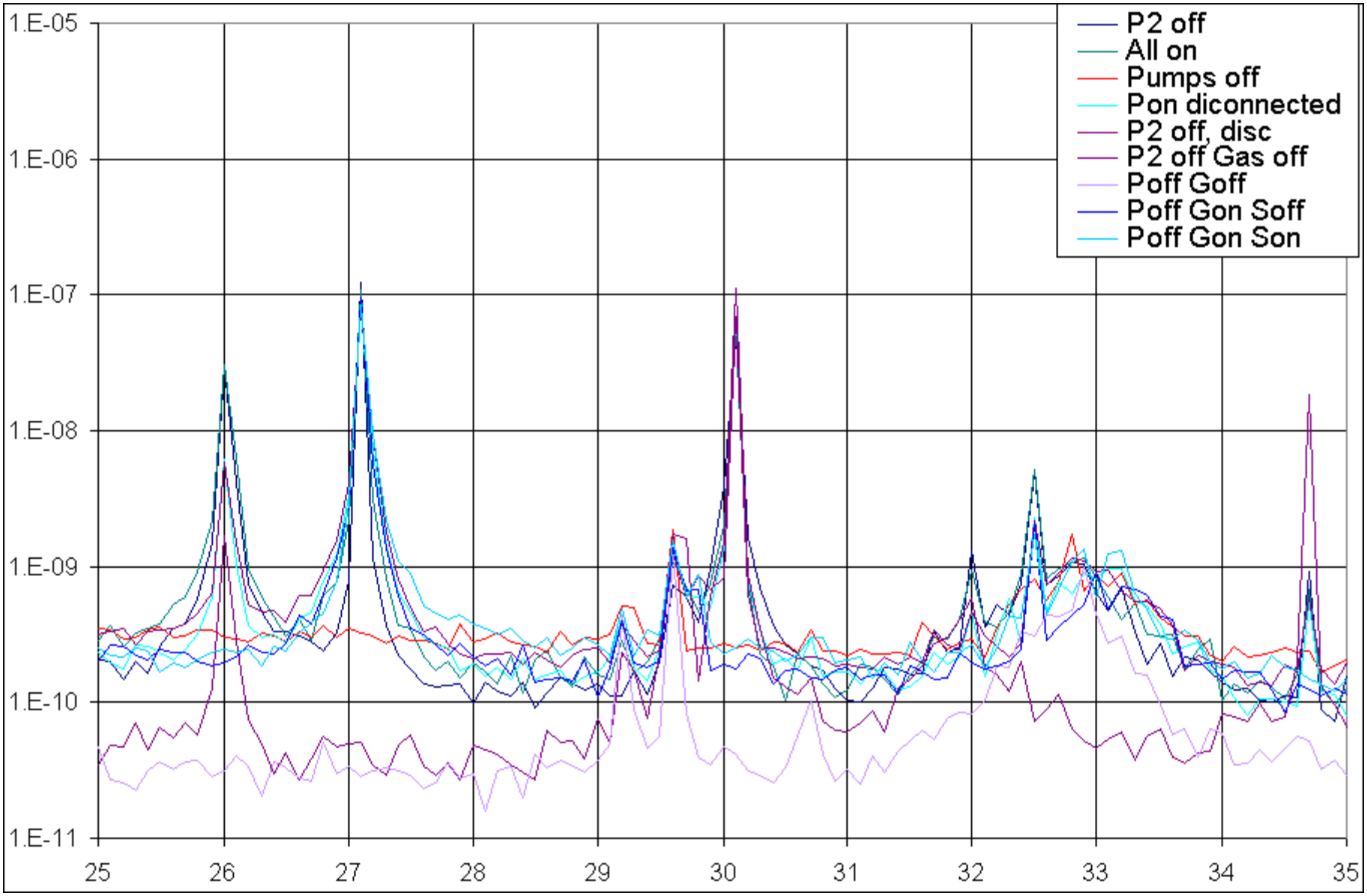
RF phase detector signal power spectrum.



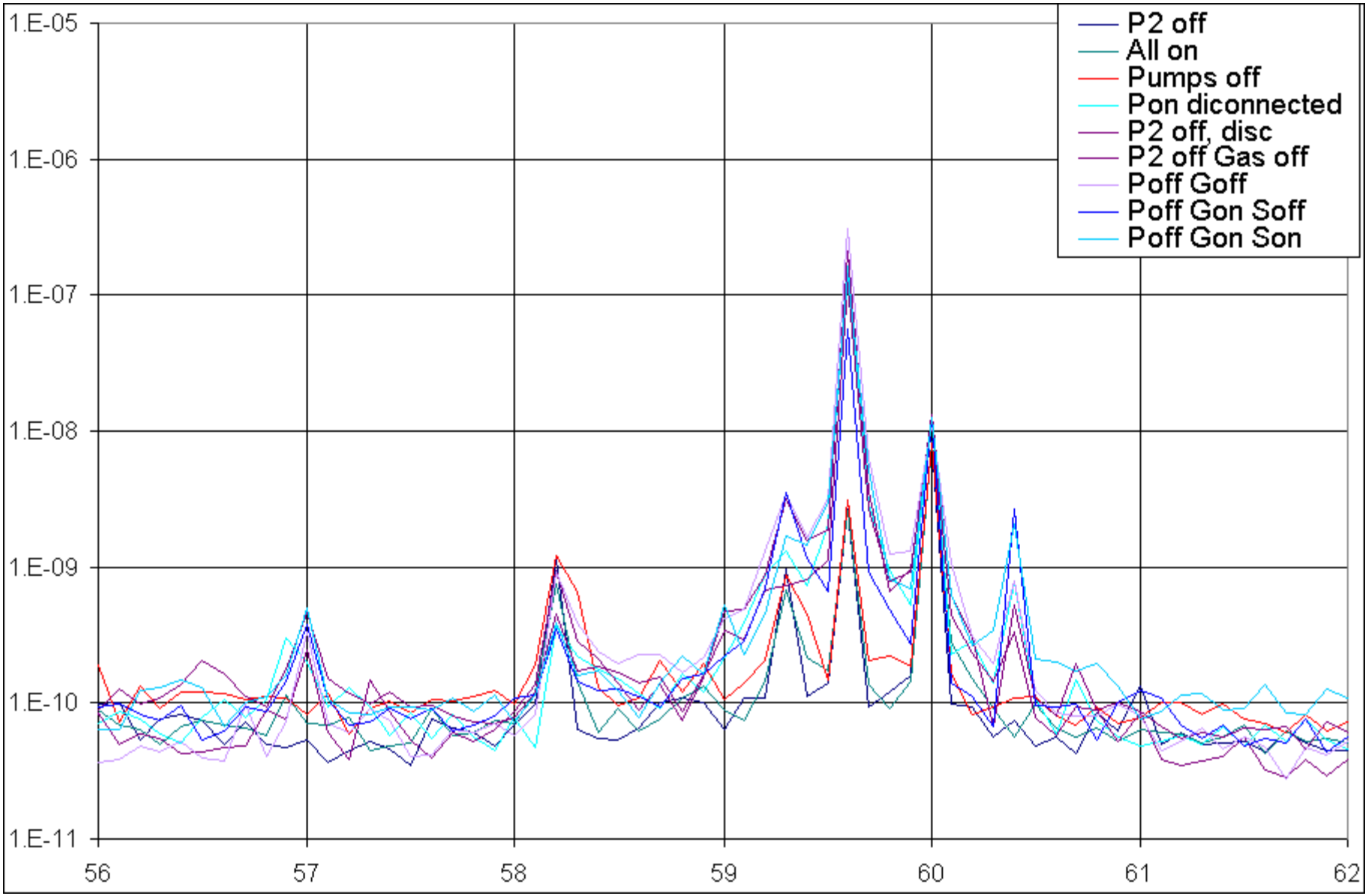
RF phase detector signal power spectrum.



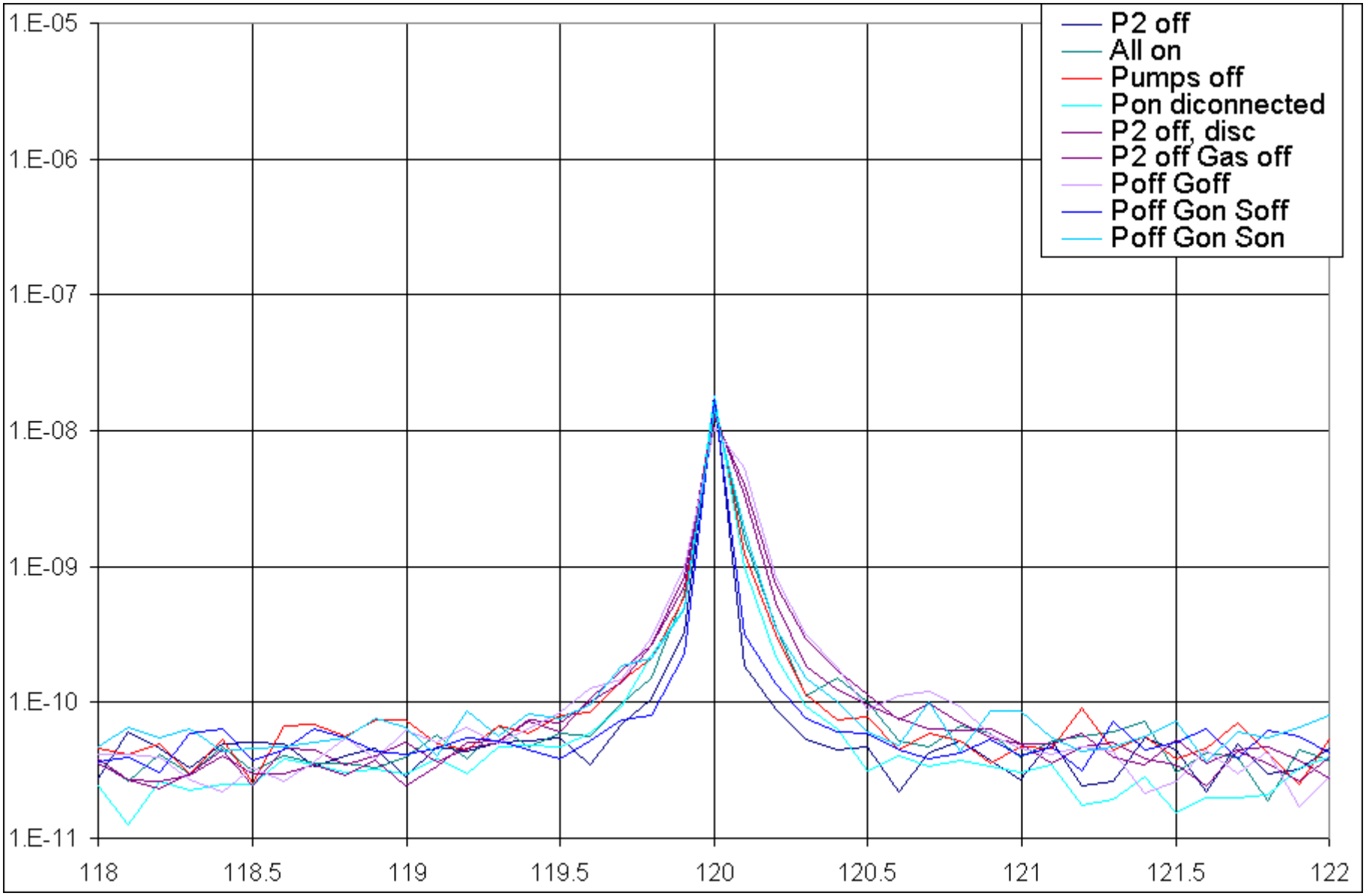
RF phase detector signal power spectrum.



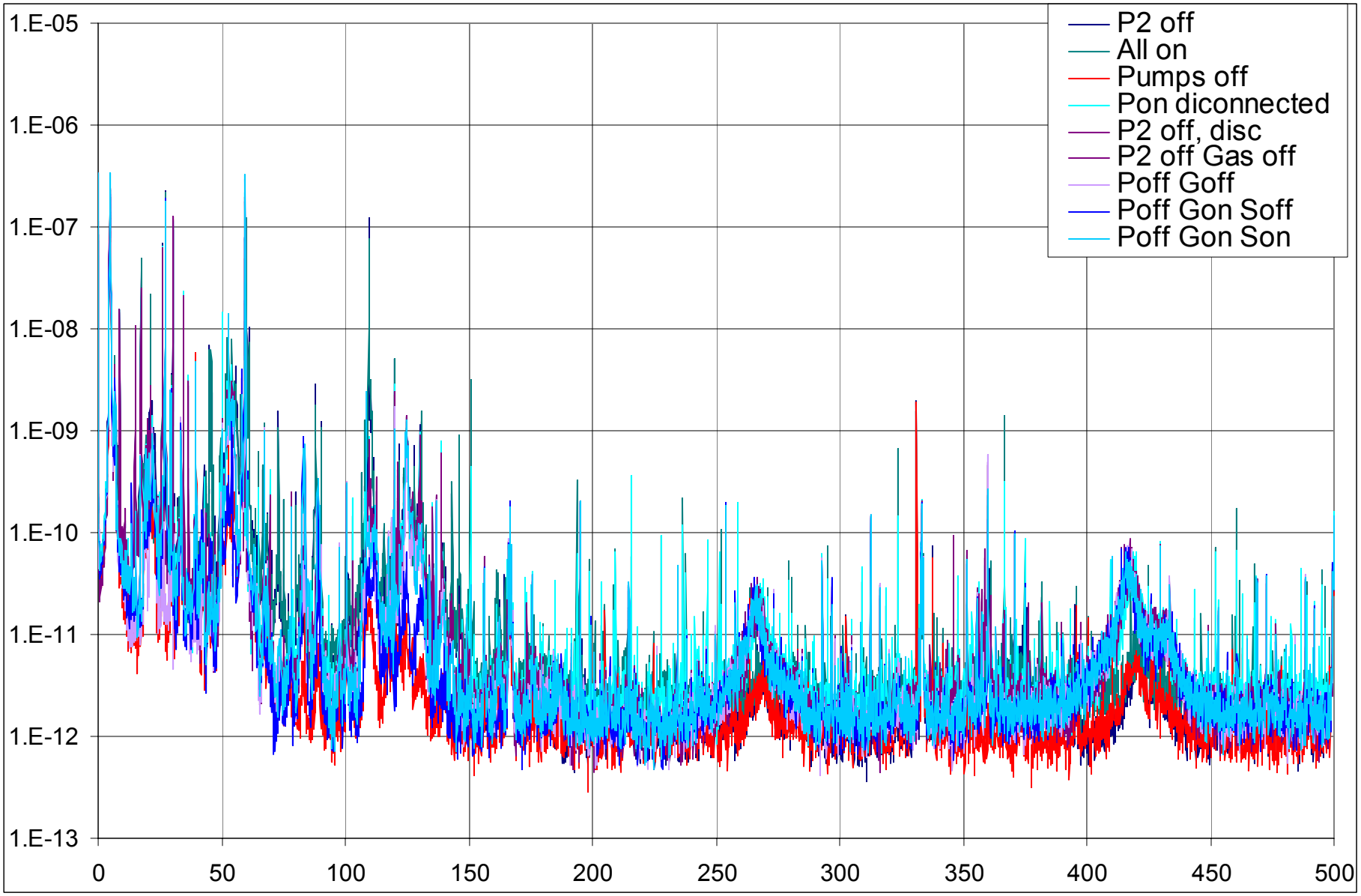
RF phase detector signal power spectrum.



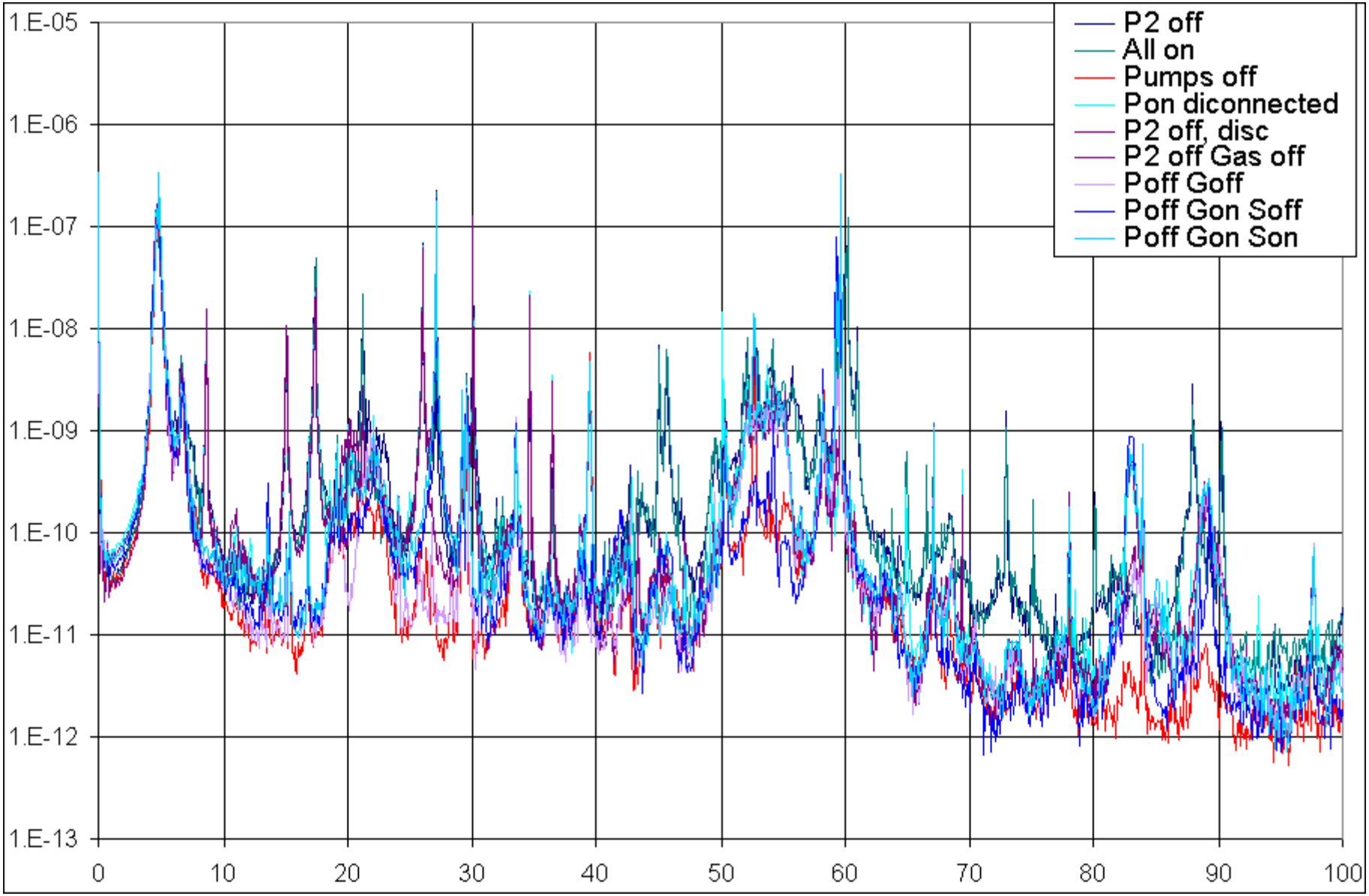
RF phase detector signal power spectrum.



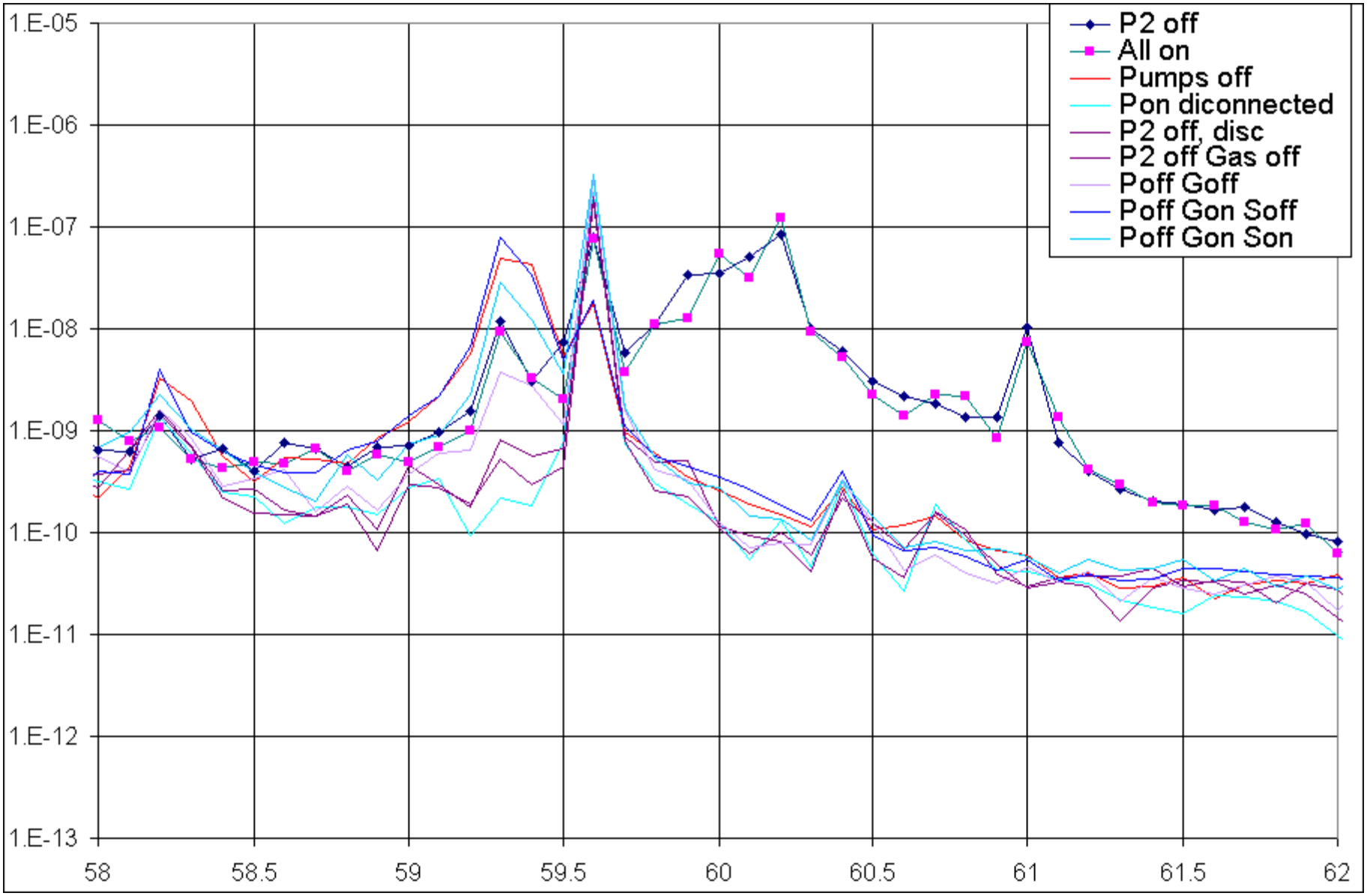
Horizontal Geo sensor signal power spectrum.



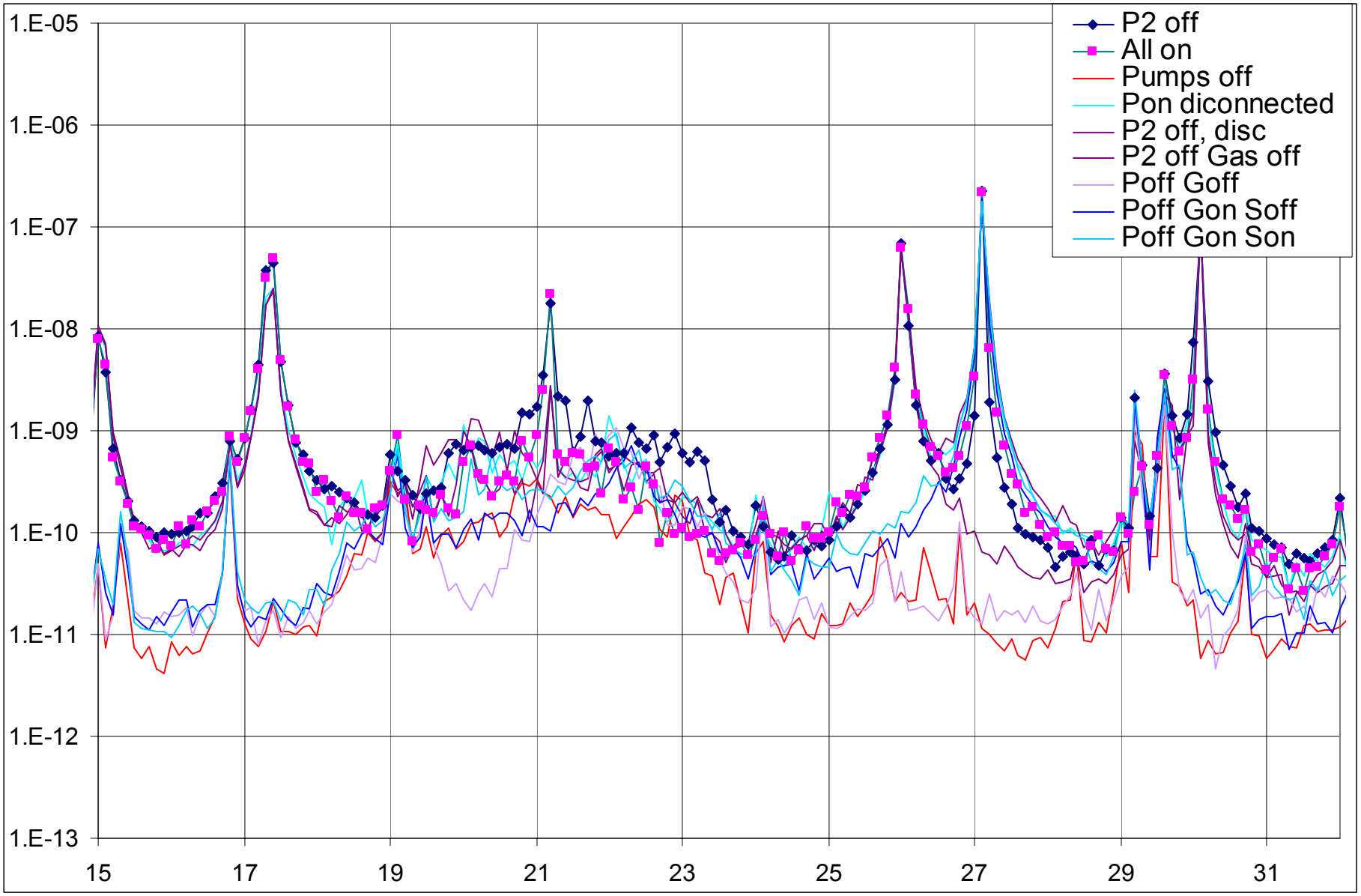
Horizontal Geo sensor signal power spectrum.



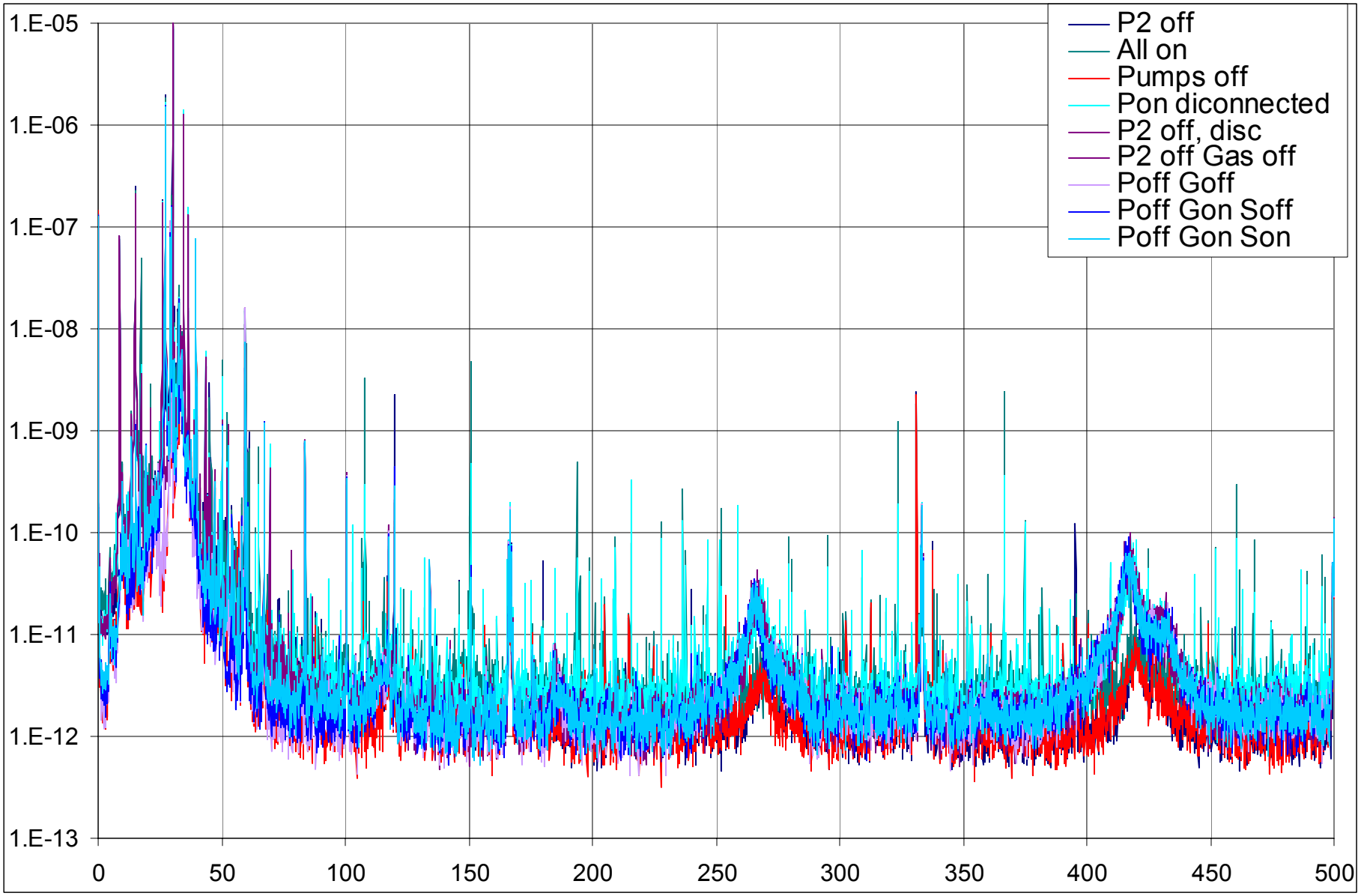
Horizontal Geo sensor signal power spectrum.



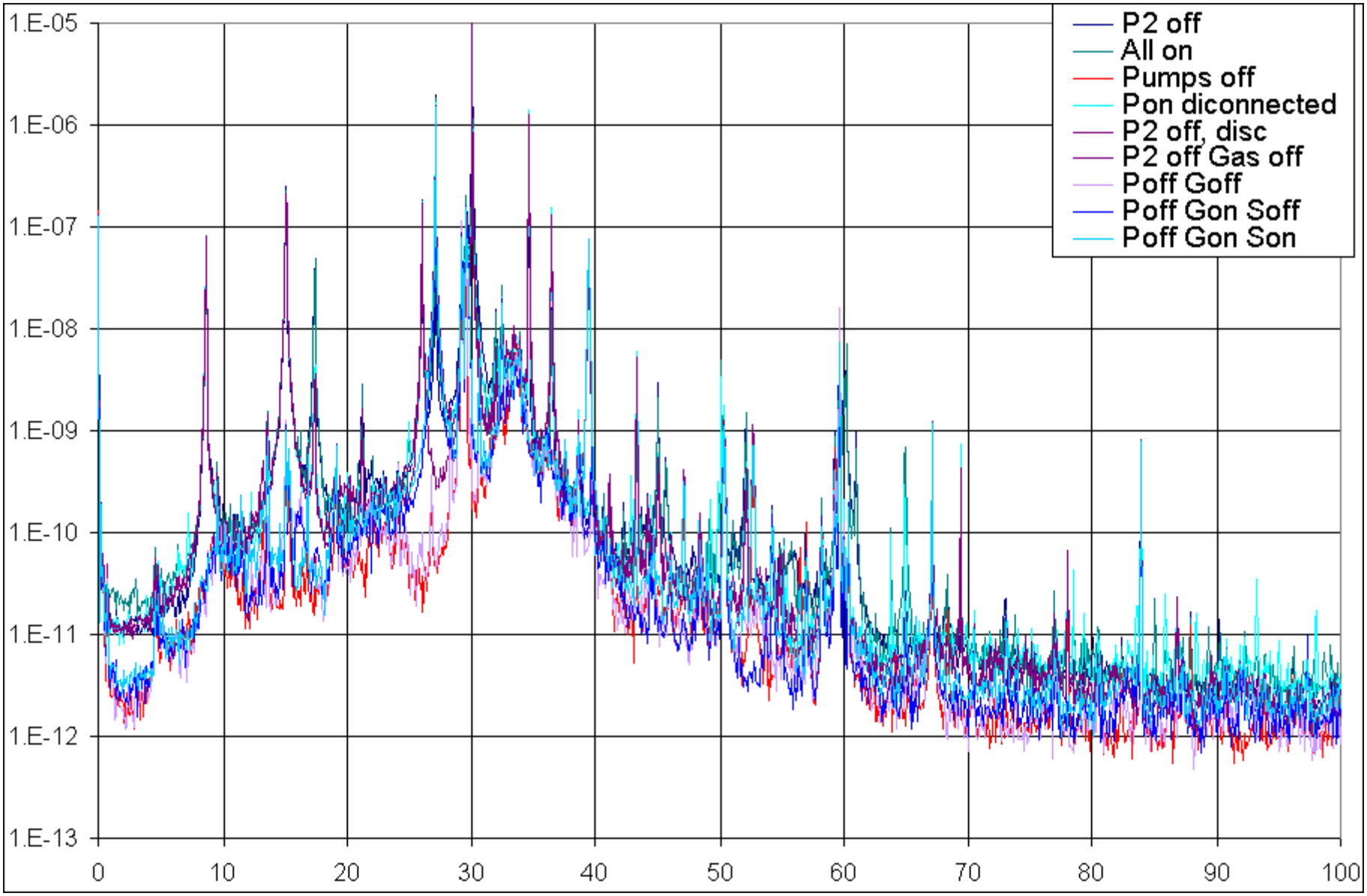
Horizontal Geo sensor signal power spectrum.



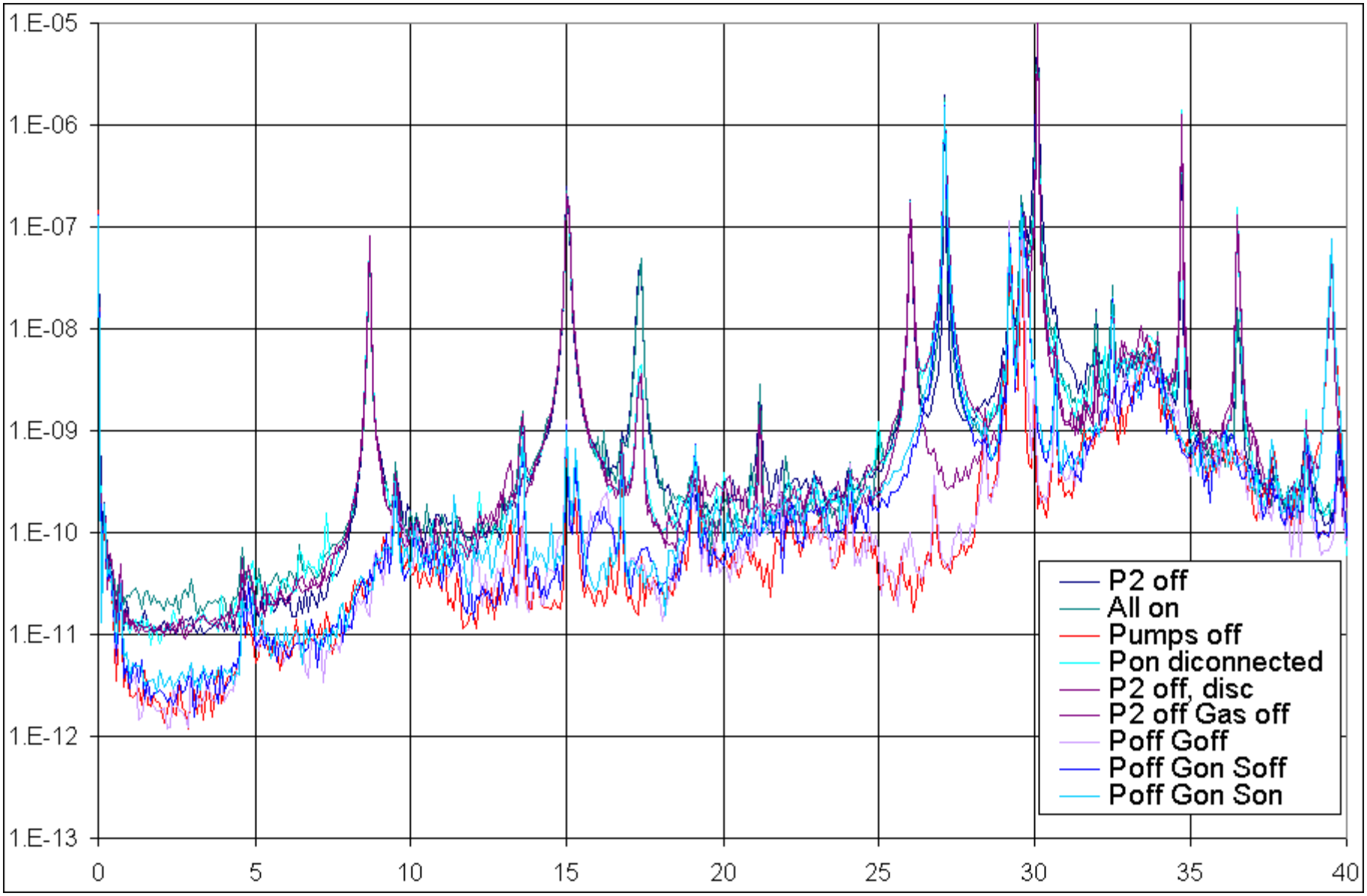
Vertical Geo sensor signal power spectrum.



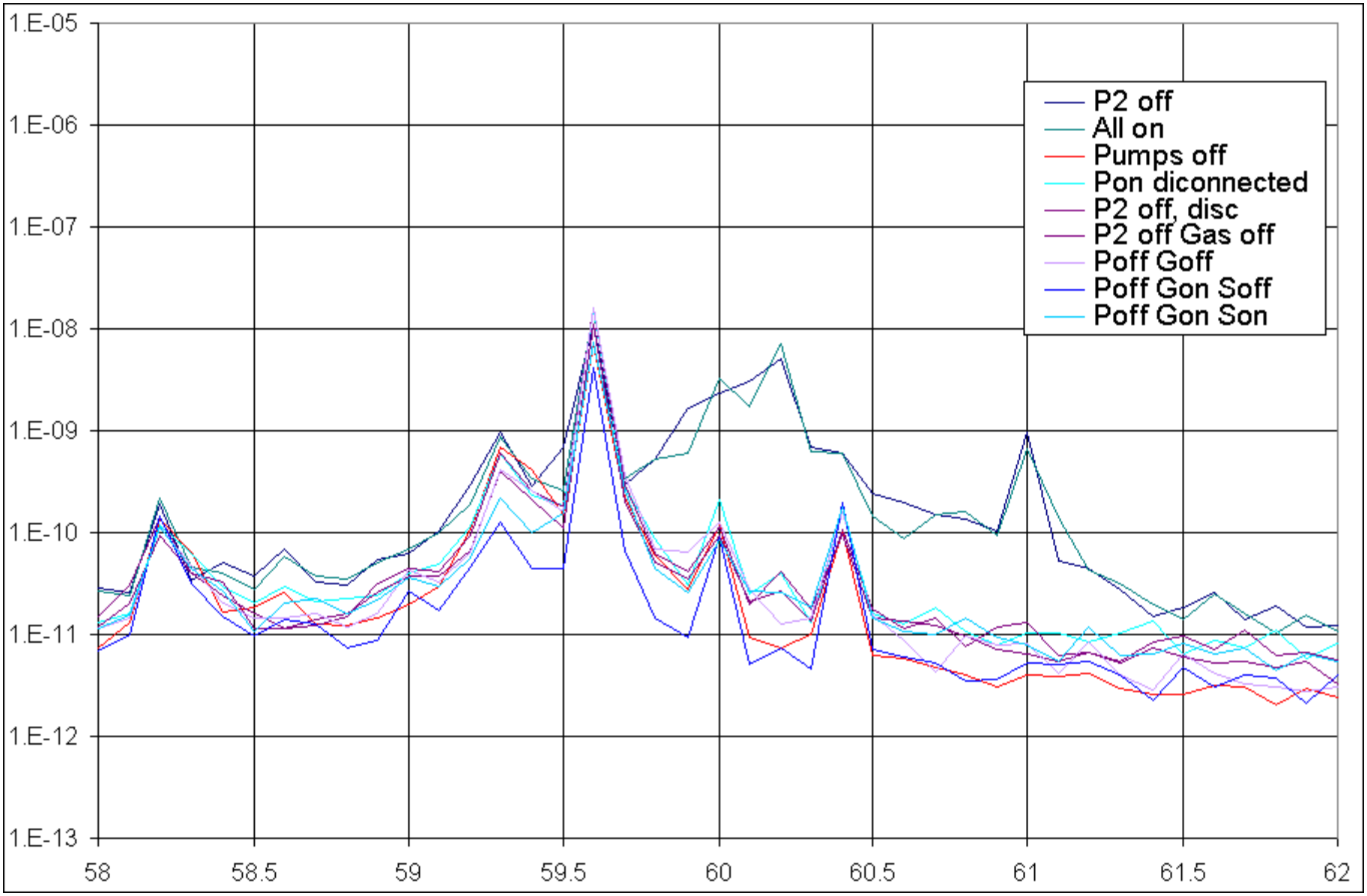
Vertical Geo sensor signal power spectrum.



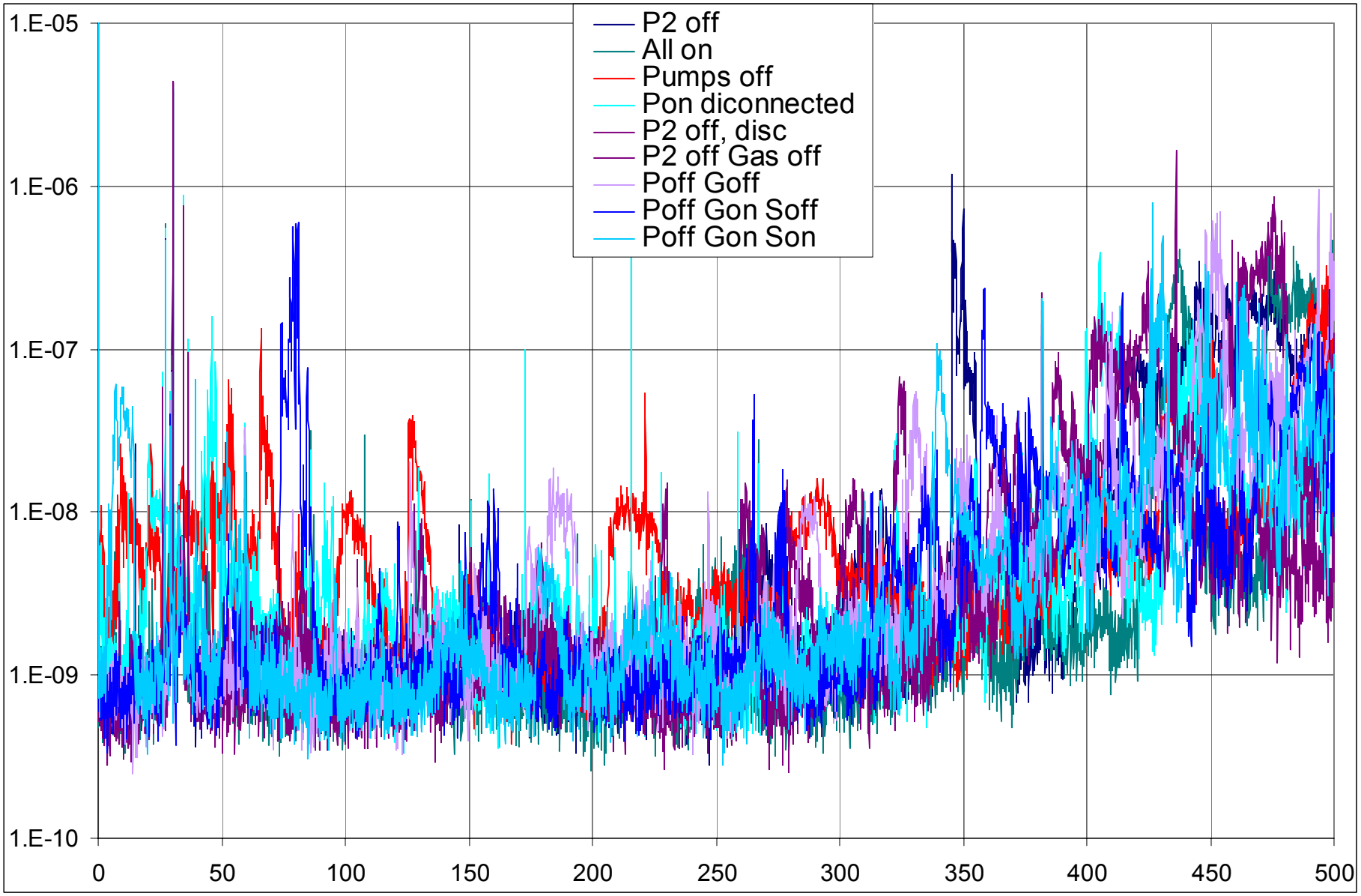
Vertical Geo sensor signal power spectrum.



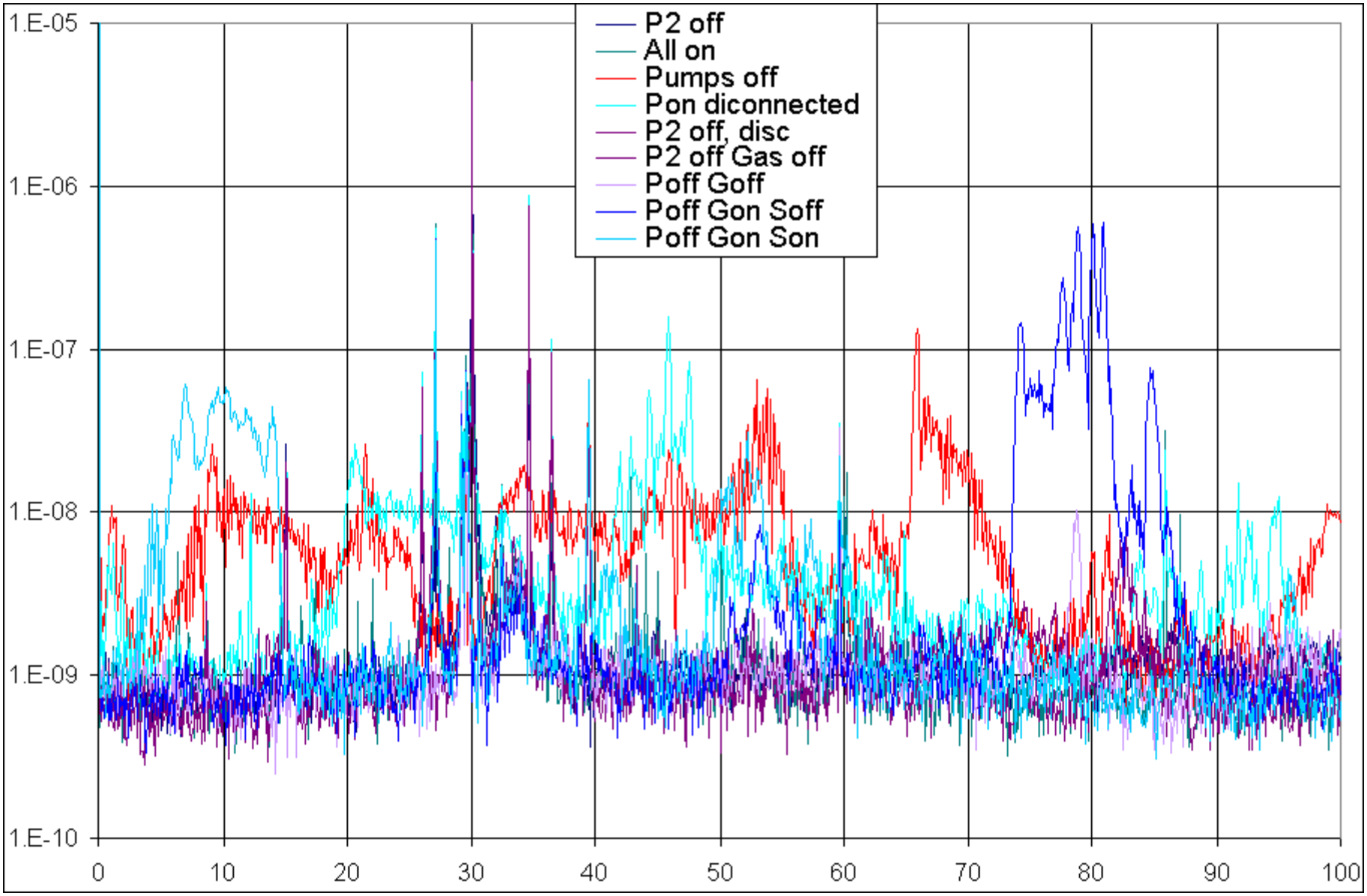
Vertical Geo sensor signal power spectrum.



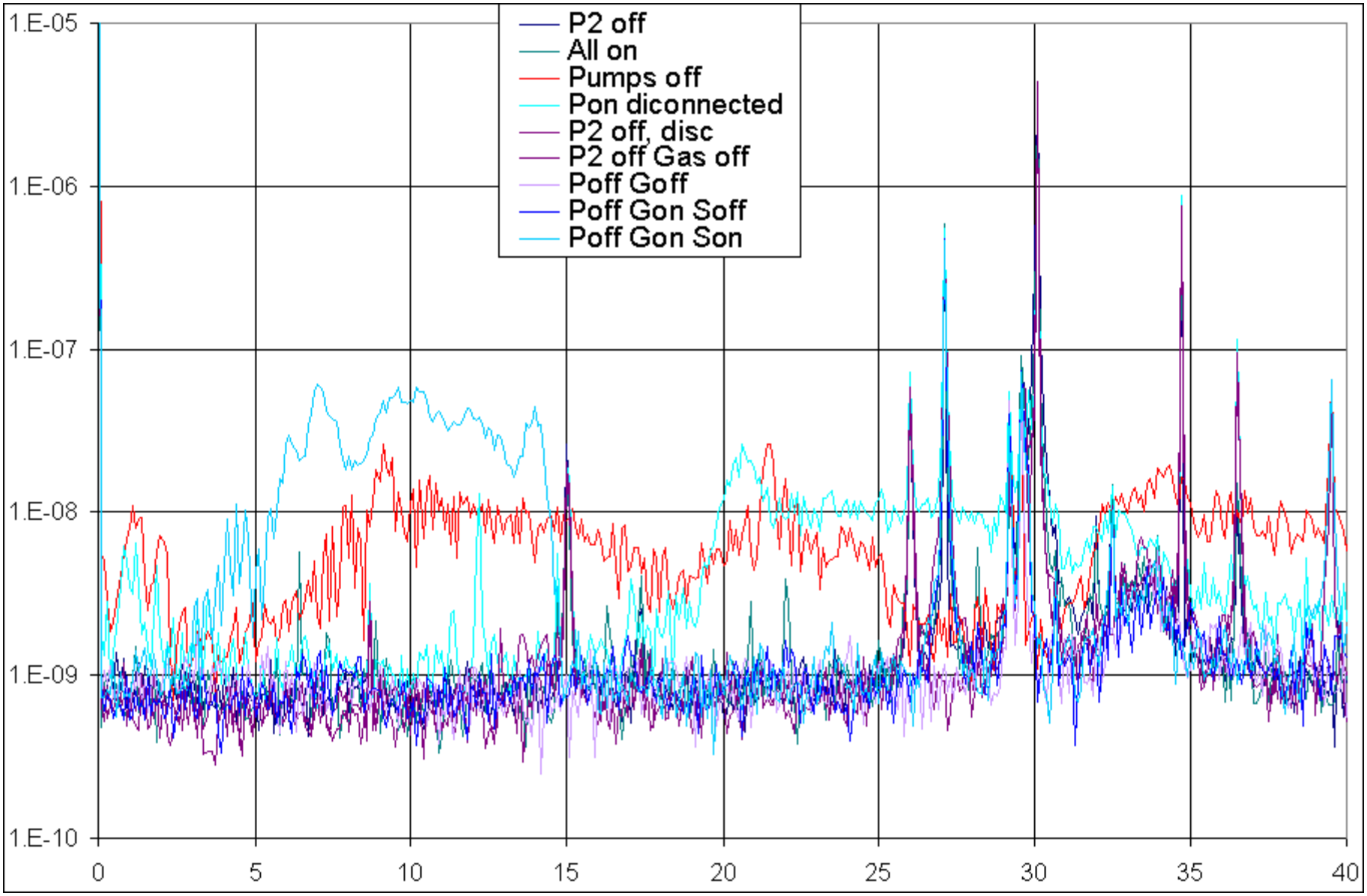
Accelerometer signal power spectrum.



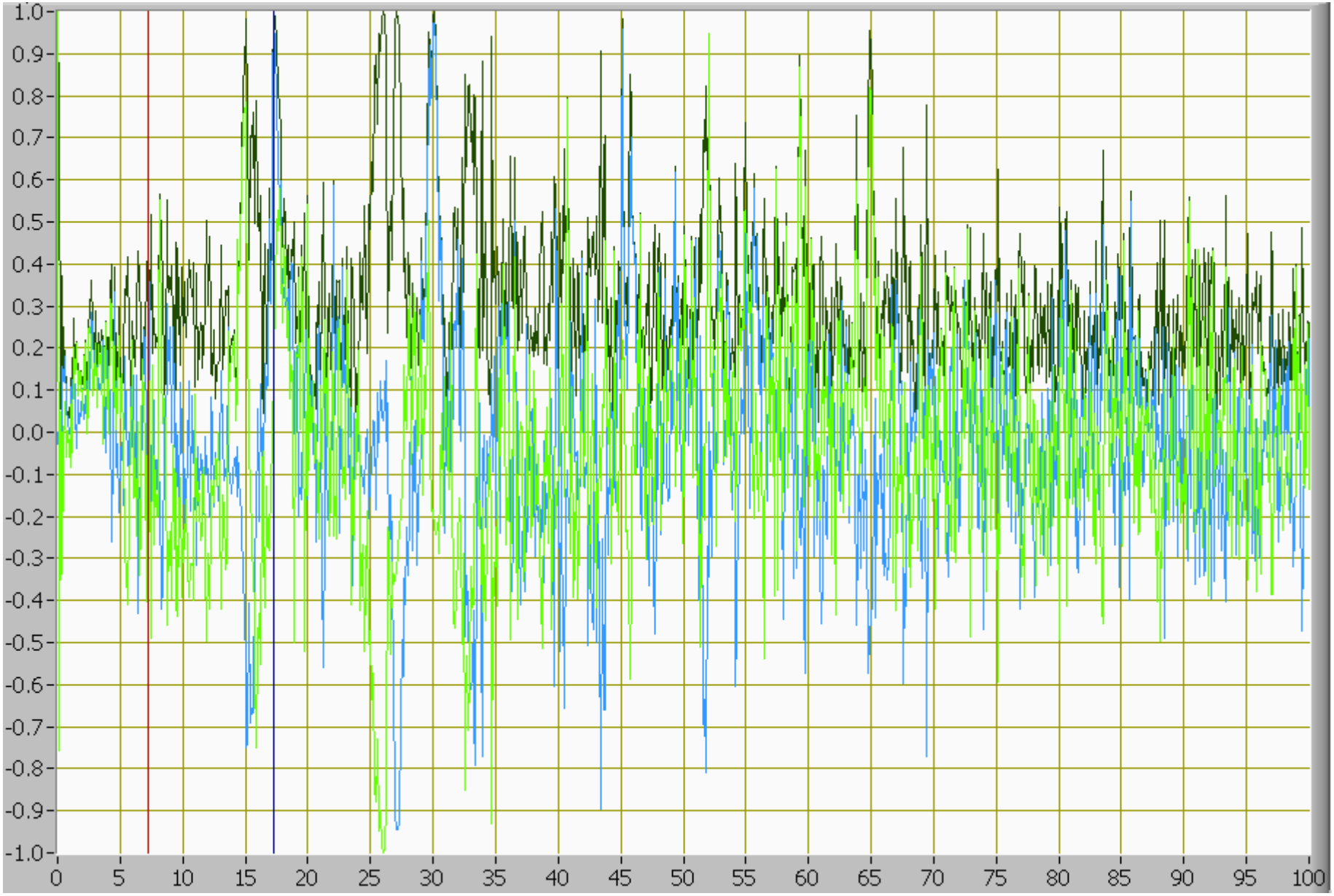
Accelerometer signal power spectrum.



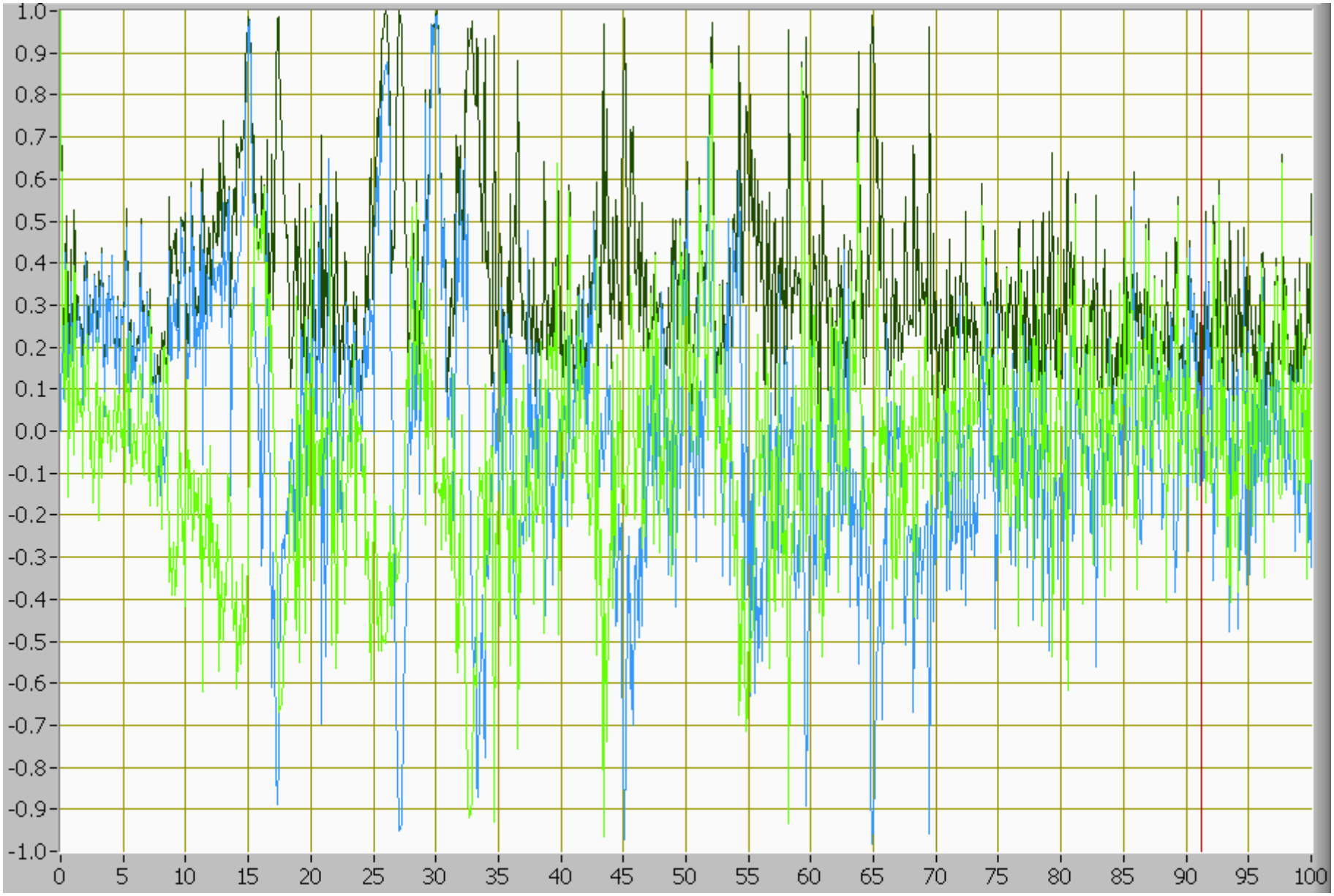
Accelerometer signal power spectrum.



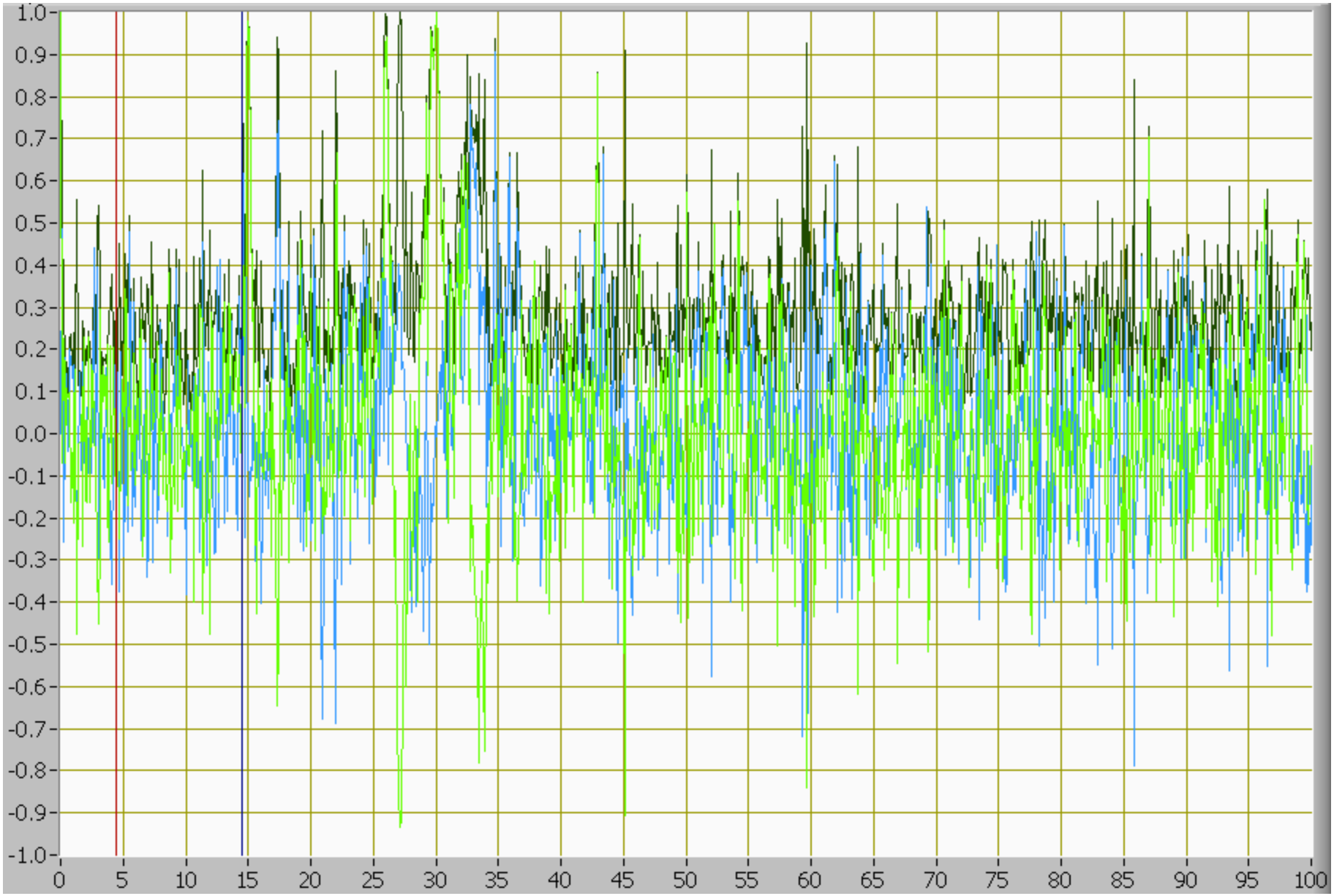
RF phase and horizontal sensor signals correlation spectrum.



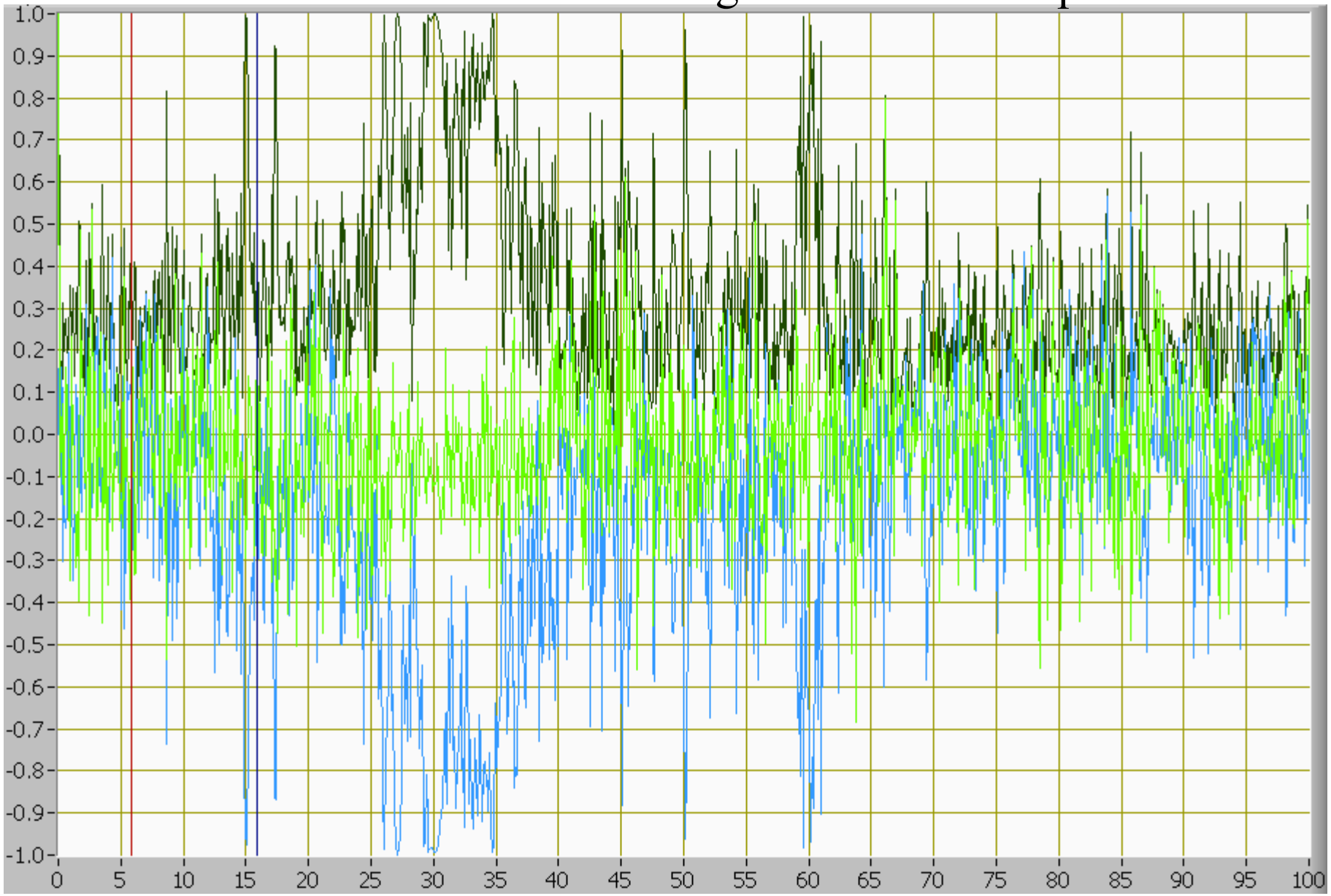
RF phase and vertical sensor signals correlation spectrum.



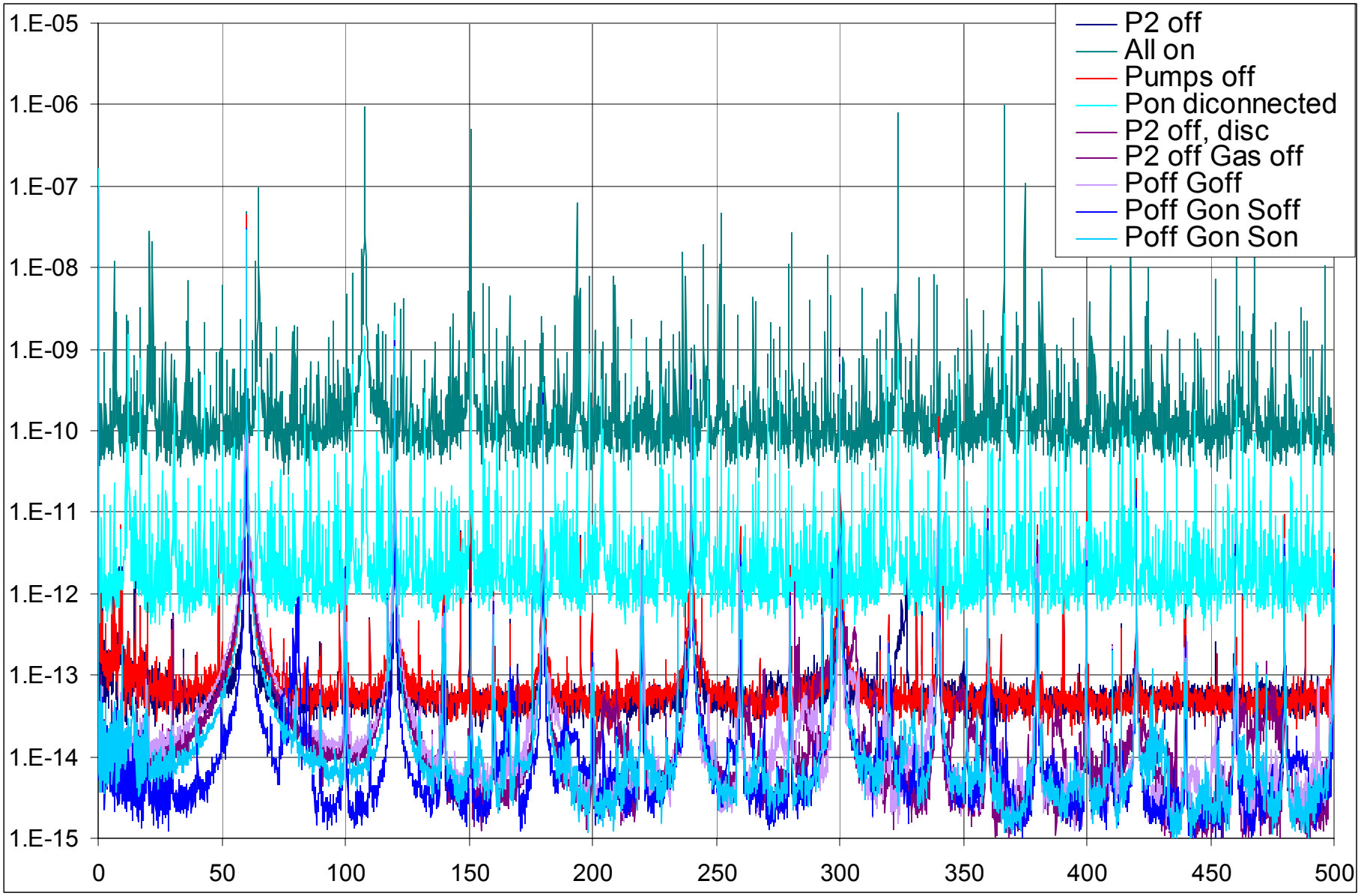
RF phase and accelerometer signals correlation spectrum.



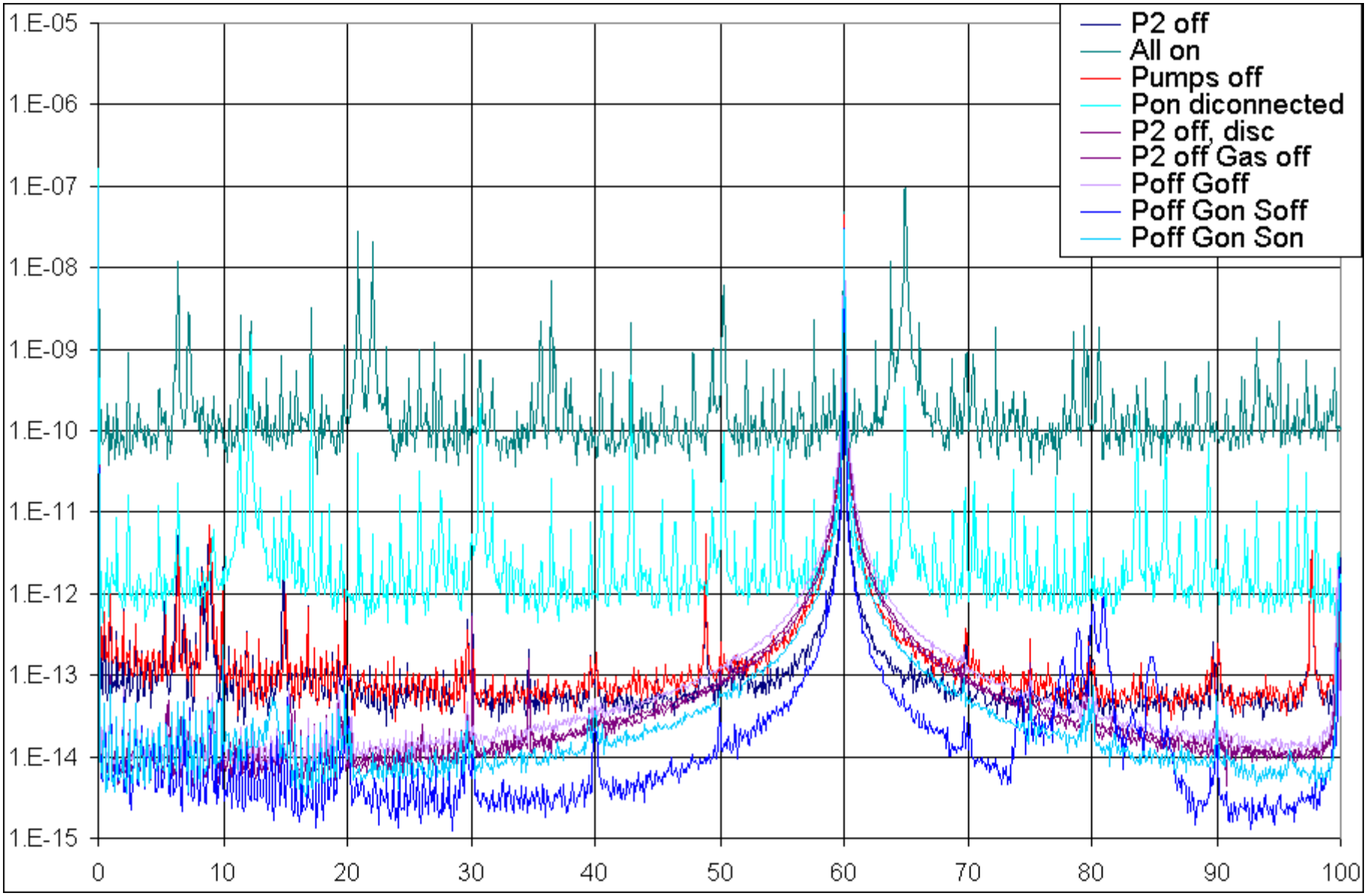
Accelerometer and vertical sensor signals correlation spectrum.

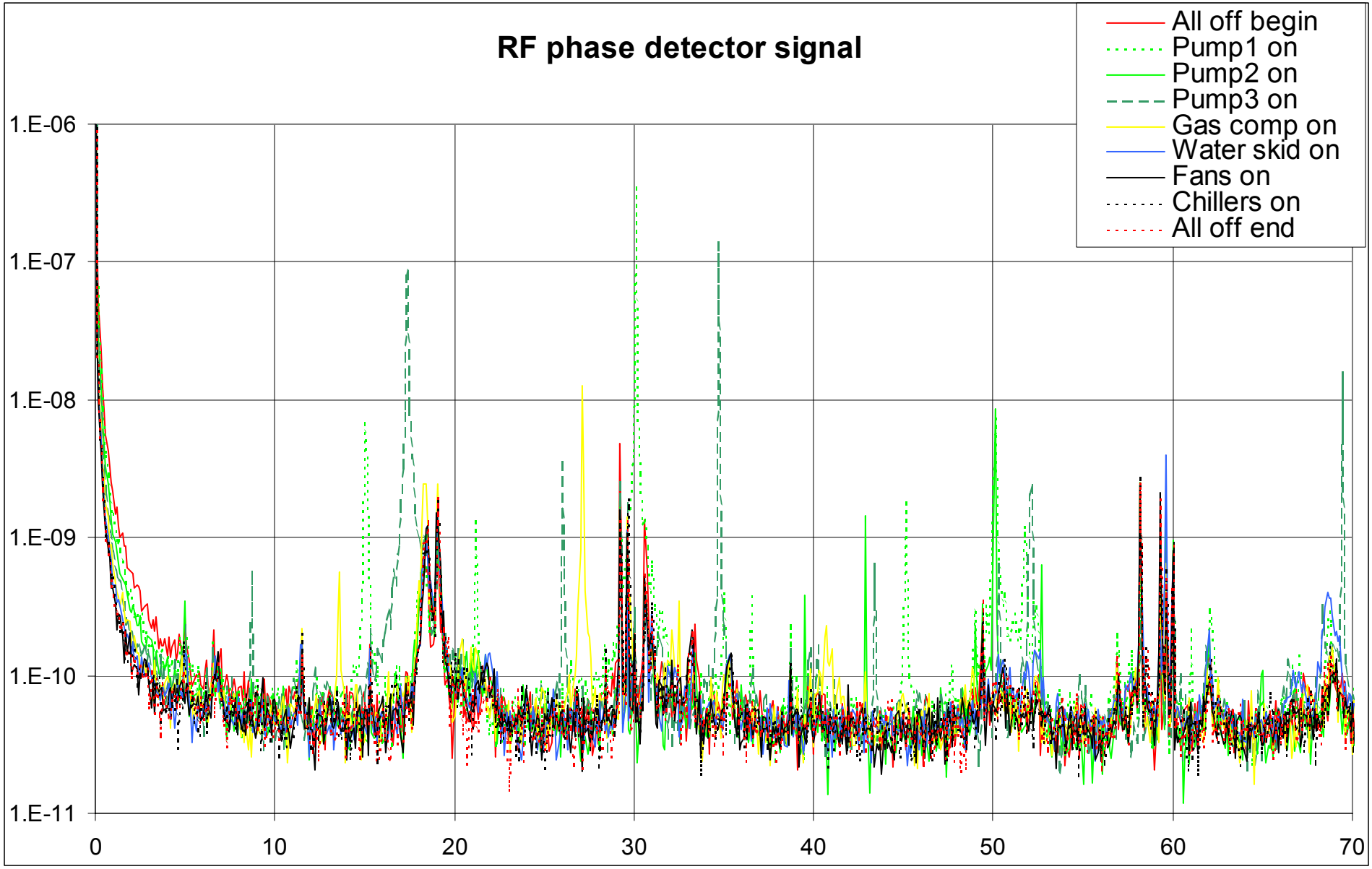


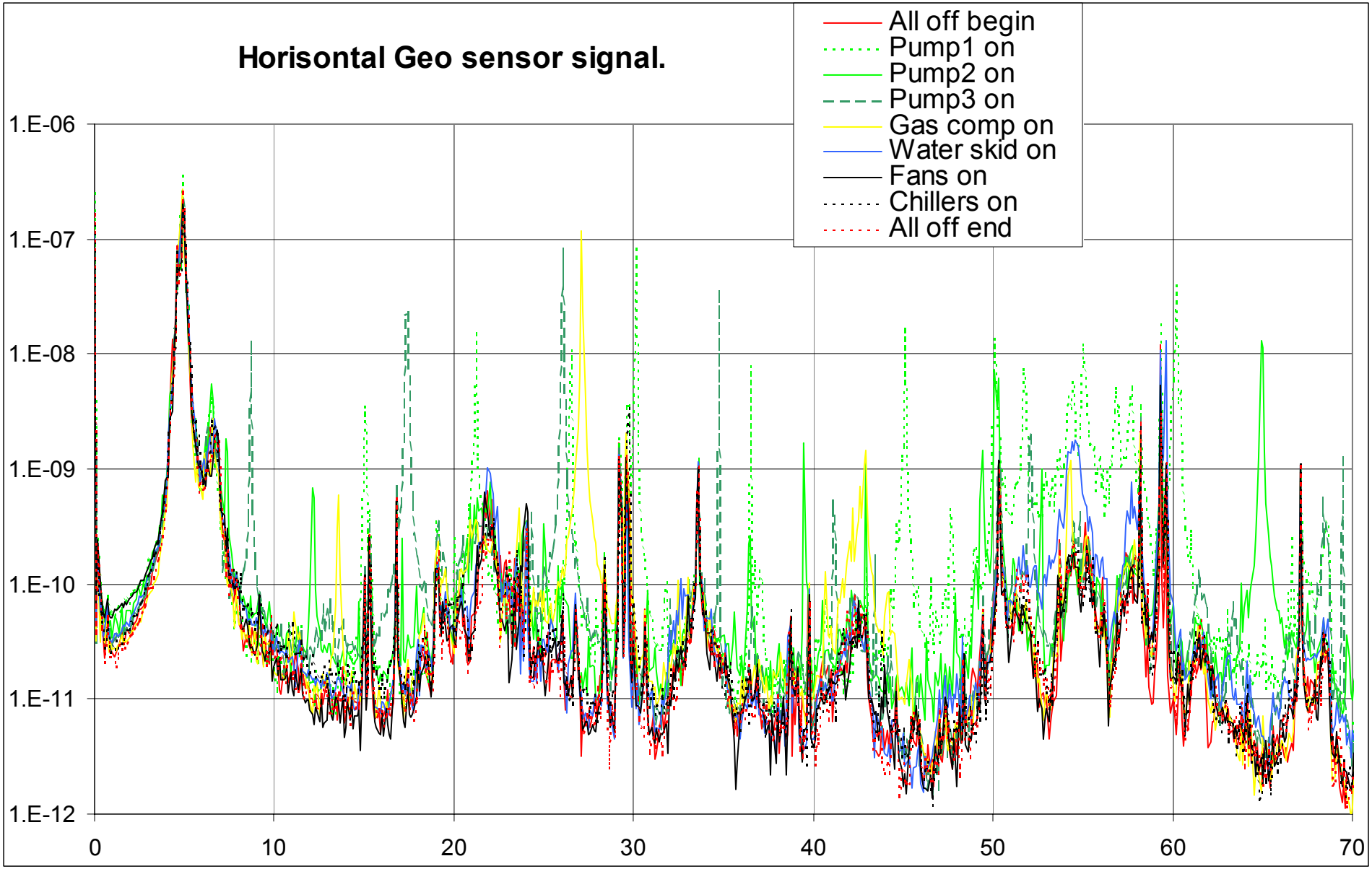
Piezo sensor signal power spectrum.

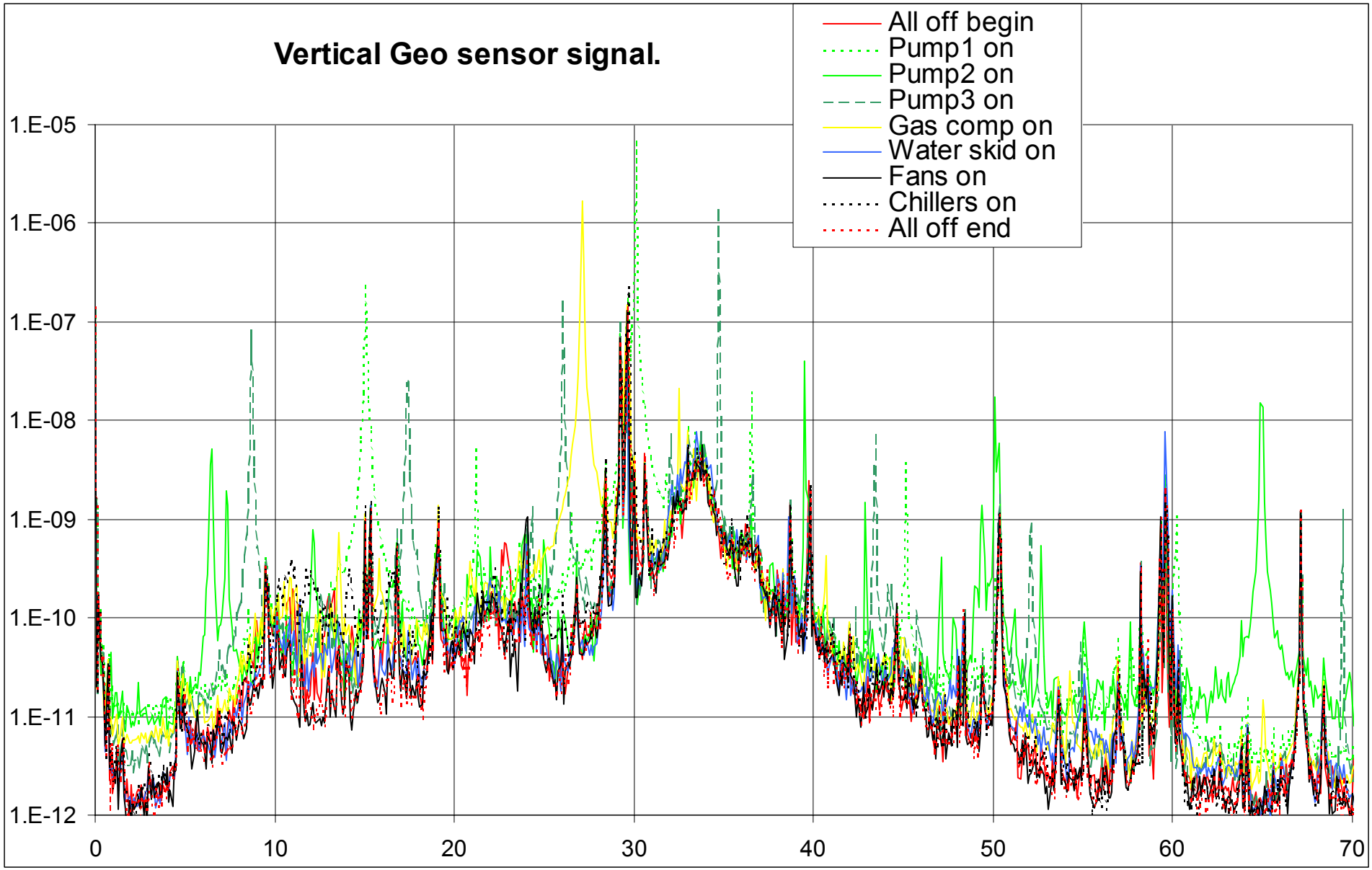


Piezo sensor signal power spectrum.

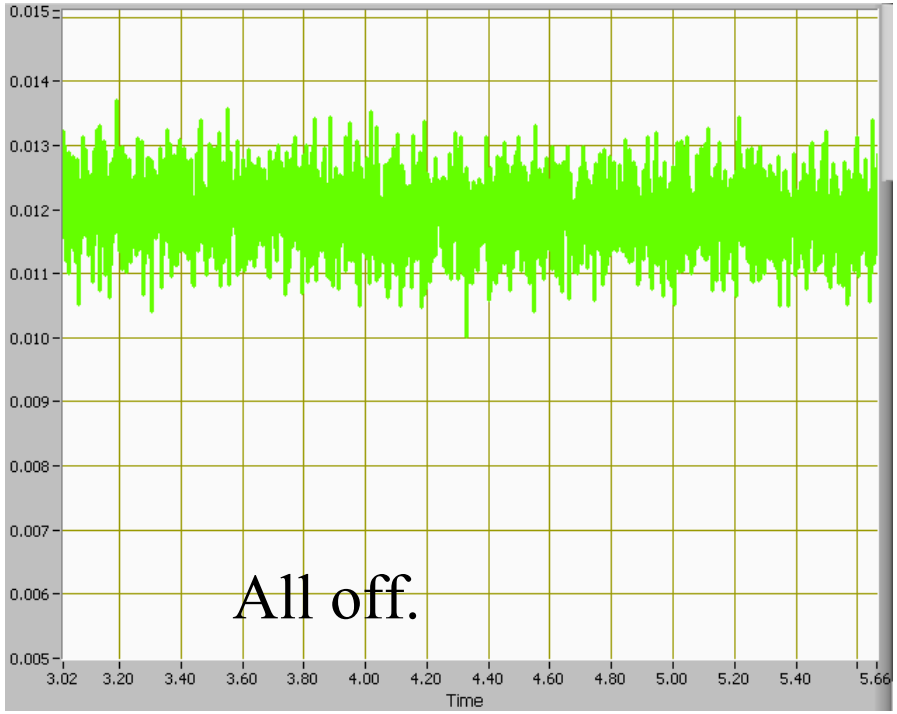


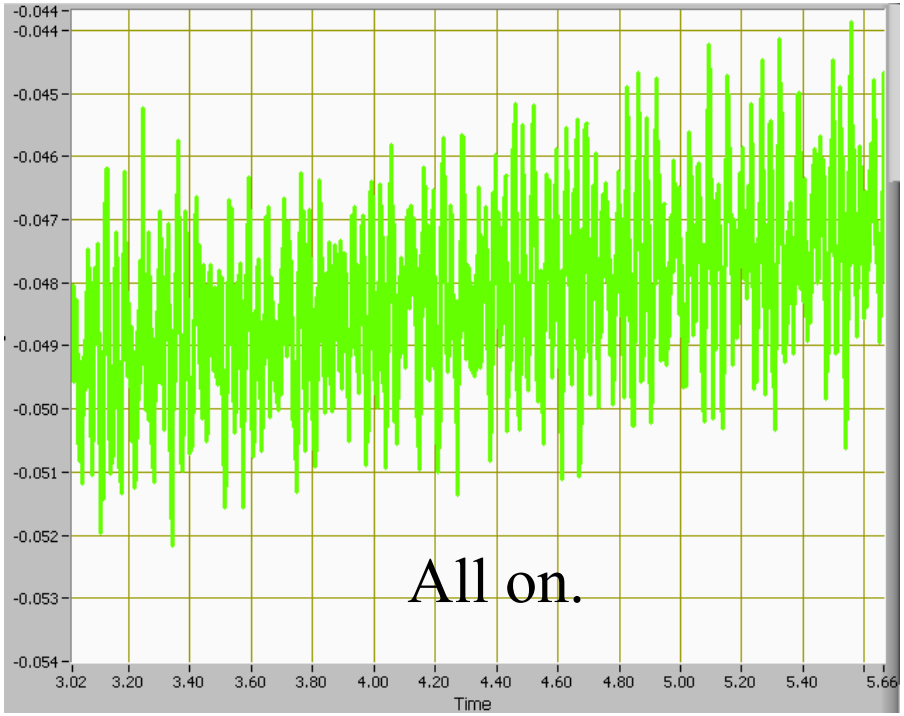

RF phase detector signal
All off begin
Pump1 on
Pump2 on
Pump3 on
Gas comp on
Water skid on
Fans on
Chillers on
All off end
1.E-06
1.E-07
1.E-08
1.E-09
1.E-10
1.E-11
0
10
20
30
40
50
60
70


Horisontal Geo sensor signal.
All off begin
Pump1 on
Pump2 on
Pump3 on
Gas comp on
Water skid on
Fans on
Chillers on
All off end
1.E-06
1.E-07
1.E-08
1.E-09
1.E-10
1.E-11
1.E-12
0
10
20
30
40
50
60
70


Vertical Geo sensor signal.
All off begin
Pump1 on
Pump2 on
Pump3 on
Gas comp on
Water skid on
Fans on
Chillers on
All off end
1.E-05
1.E-06
1.E-07
1.E-08
1.E-09
1.E-10
1.E-11
1.E-12
0
10
20
30
40
50
60
70

RF phase detector signal.





Pump1 responsible for 15, 21 30, 45 and 50Hz components.

Pump2 responsible for 43 and 65Hz components. Also it is a large source pulse noise for all electronics.

Pump3 responsible for 8.5, 26, 52 and 69Hz components. May be 8.5 and harmonics.

Gas compressor responsible for 27Hz component.

Water skid responsible for 59.6Hz component.