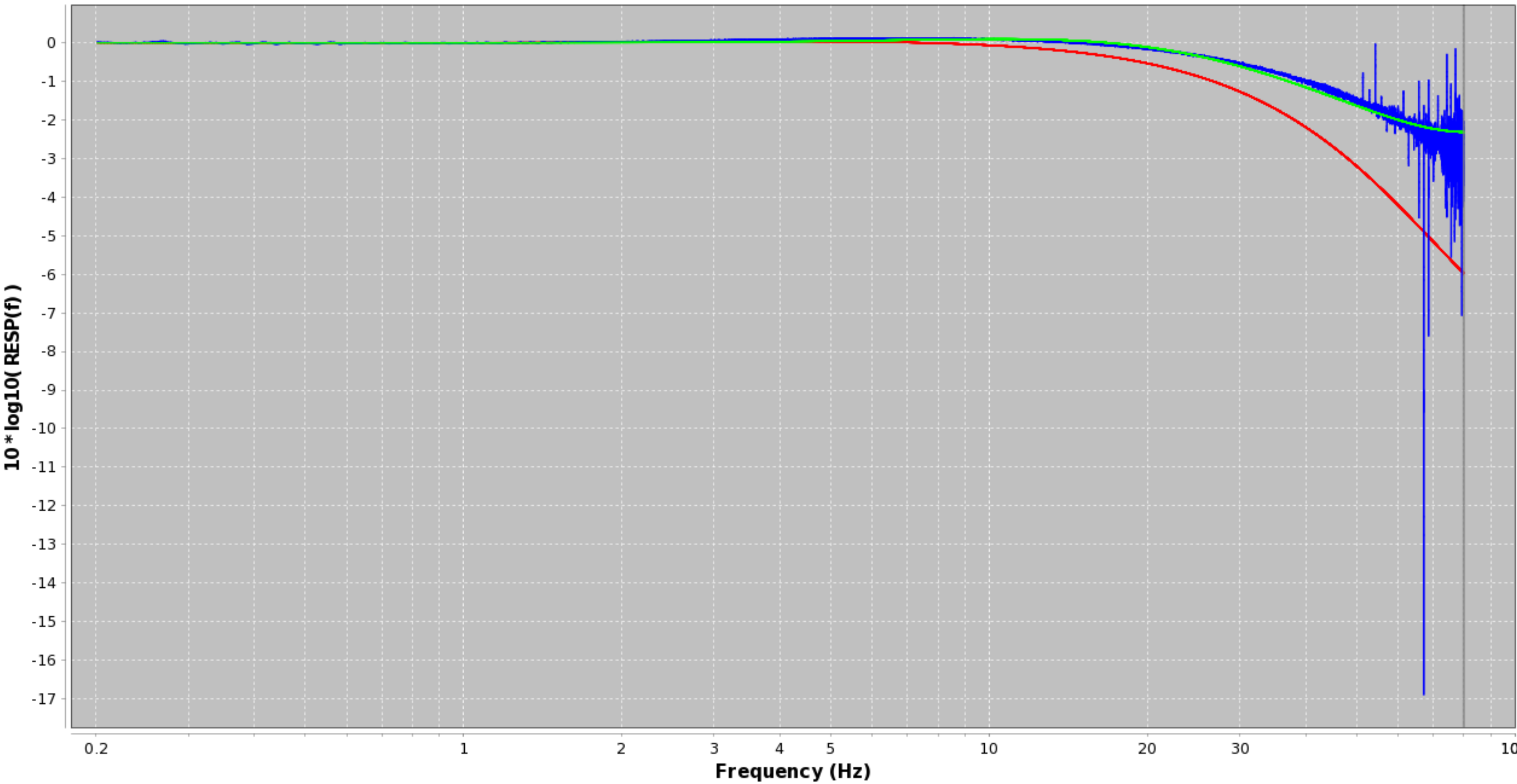


Randomized calibration (HIGH FREQ.)



Initial param (RESP.IU.CCM.10.BHZ\_nocoil) magnitude    Calc. resp. (IU\_CCM\_10\_EHZ) magnitude    Fit resp. magnitude

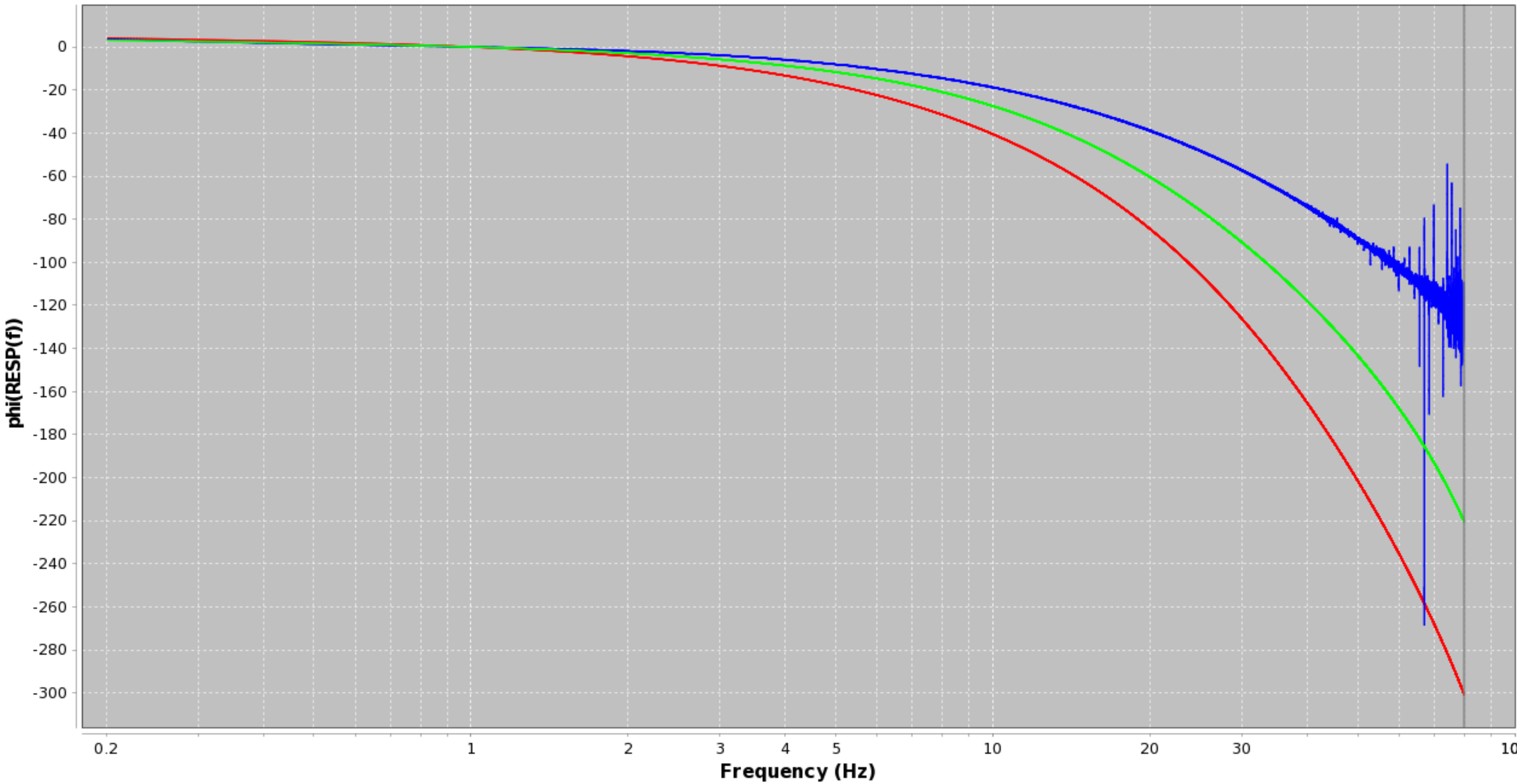
**Initial poles:**  
-501.105 (0.01254), -501.105 (0.01254)  
-501.105 (0.01254), -501.105 (0.01254)  
-501.105 (0.01254), -501.105 (0.01254)  
-351.858 (0.01786), -22.3068 (0.28167)  
-22.3068 (0.28167),  
**Fit poles:**  
-940.19321 (0.00668), -940.19321 (0.00668)  
-940.19321 (0.00668), -940.19321 (0.00668)  
-940.19321 (0.00668), -940.19321 (0.00668)  
-169.62729 (0.03704), -104.14335 (0.06033)  
-104.14335 (0.06033),

**Initial zeros:**  
-351.858 (0.01786), -21.9911 (0.28571)  
-21.9911 (0.28571),  
**Fit zeros:**  
-447.93569 (0.01403), -90.59966 (0.06935)  
-90.59966 (0.06935),

**Residuals:**  
Initial (nom. resp curve): 3355.4917583182933  
Best fit: 853.950005750879

NUMBER OF ITERATIONS: 84

Randomized calibration (HIGH FREQ.)



Initial param (RESP.IU.CCM.10.BHZ\_nocoil) phase    Calc. resp. (IU\_CCM\_10\_EHZ) phase    Fit resp. phase

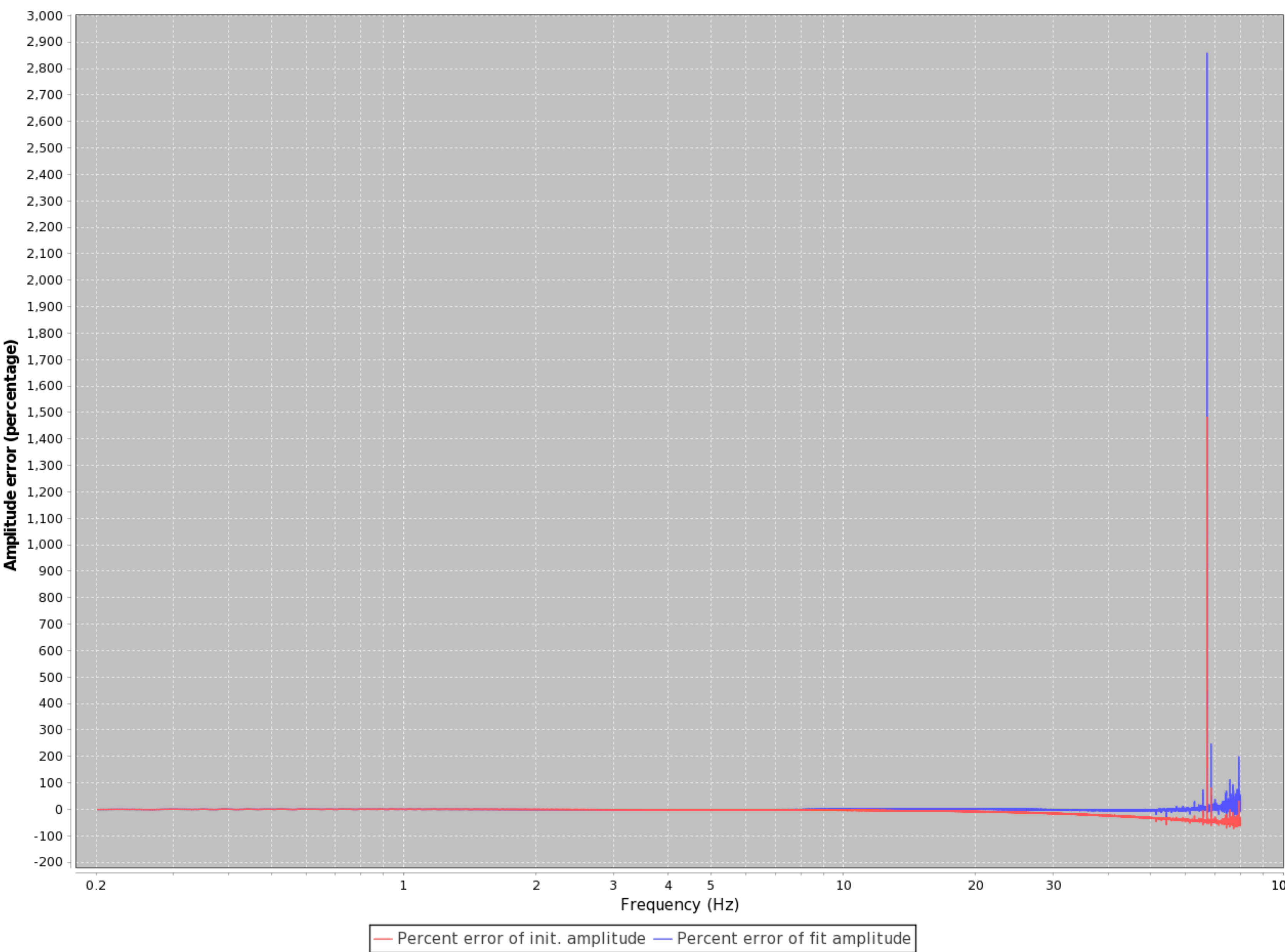
**Initial poles:**  
-501.105 (0.01254), -501.105 (0.01254)  
-501.105 (0.01254), -501.105 (0.01254)  
-501.105 (0.01254), -501.105 (0.01254)  
-351.858 (0.01786), -22.3068 (0.28167)  
-22.3068 (0.28167),  
**Fit poles:**  
-940.19321 (0.00668), -940.19321 (0.00668)  
-940.19321 (0.00668), -940.19321 (0.00668)  
-940.19321 (0.00668), -940.19321 (0.00668)  
-169.62729 (0.03704), -104.14335 (0.06033)  
-104.14335 (0.06033),

**Initial zeros:**  
-351.858 (0.01786), -21.9911 (0.28571)  
-21.9911 (0.28571),  
**Fit zeros:**  
-447.93569 (0.01403), -90.59966 (0.06935)  
-90.59966 (0.06935),

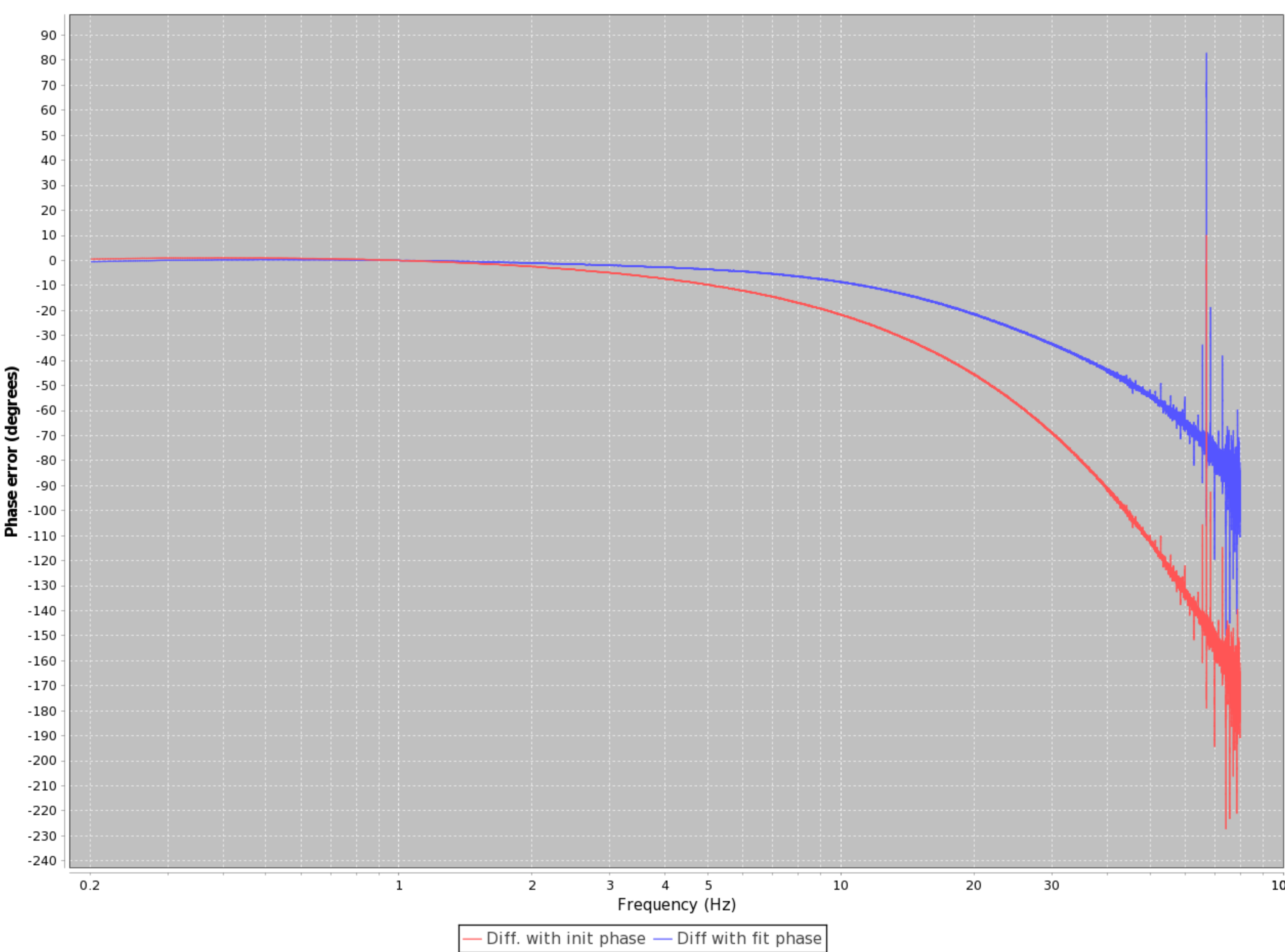
**Residuals:**  
Initial (nom. resp curve): 3355.4917583182933  
Best fit: 853.950005750879

NUMBER OF ITERATIONS: 84

Randomized calibration



Randomized calibration



Initial poles:

-501.105 (0.01254), -501.105 (0.01254)  
-501.105 (0.01254), -501.105 (0.01254)  
-501.105 (0.01254), -501.105 (0.01254)  
-351.858 (0.01786), -22.3068 (0.28167)  
-22.3068 (0.28167),

Fit poles:

-940.19321 (0.00668), -940.19321 (0.00668)  
-940.19321 (0.00668), -940.19321 (0.00668)  
-940.19321 (0.00668), -940.19321 (0.00668)  
-169.62729 (0.03704), -104.14335 (0.06033)  
-104.14335 (0.06033),

Initial zeros:

-351.858 (0.01786), -21.9911 (0.28571)  
-21.9911 (0.28571),

Fit zeros:

-447.93569 (0.01403), -90.59966 (0.06935)  
-90.59966 (0.06935),

Residuals:

Initial (nom. resp curve): 3355.4917583182933

Best fit: 853.950005750879

Iteration count from solver: 84

Input filenames, with SEED and RESP files paired as appropriate:

IU\_CCM\_10\_BC1

IU\_CCM\_10\_EHZ

RESP.IU.CCM.10.BHZ\_nocoil

Residuals weighting:

Amplitude: 7977.814777435791

Phase: 0.33415428890411153

Time of report generation:

2017.313.19:04:18

Data start time:

2017.151.22:28:59

Data end time:

2017.151.22:44:00

POLE VARIABLES, AS CSV:

Init	Fit	Diff	Mean	PctDiff
-501.105	-940.1932	+439.0882	-720.6491	-46.7019
+0	+0	+0	+0	+0
-501.105	-940.1932	+439.0882	-720.6491	-46.7019
+0	+0	+0	+0	+0
-501.105	-940.1932	+439.0882	-720.6491	-46.7019
+0	+0	+0	+0	+0
-501.105	-940.1932	+439.0882	-720.6491	-46.7019
+0	+0	+0	+0	+0
-501.105	-940.1932	+439.0882	-720.6491	-46.7019
+0	+0	+0	+0	+0
-501.105	-940.1932	+439.0882	-720.6491	-46.7019
+0	+0	+0	+0	+0
-351.858	-169.6273	-182.2307	-260.7426	+107.4301
+0	+0	+0	+0	+0
-22.3068	-104.1433	+81.8365	-63.2251	-78.5807
+0	+0	+0	+0	+0
-22.3068	-104.1433	+81.8365	-63.2251	-78.5807
+0	+0	+0	+0	+0

ZERO VARIABLES, AS CSV:

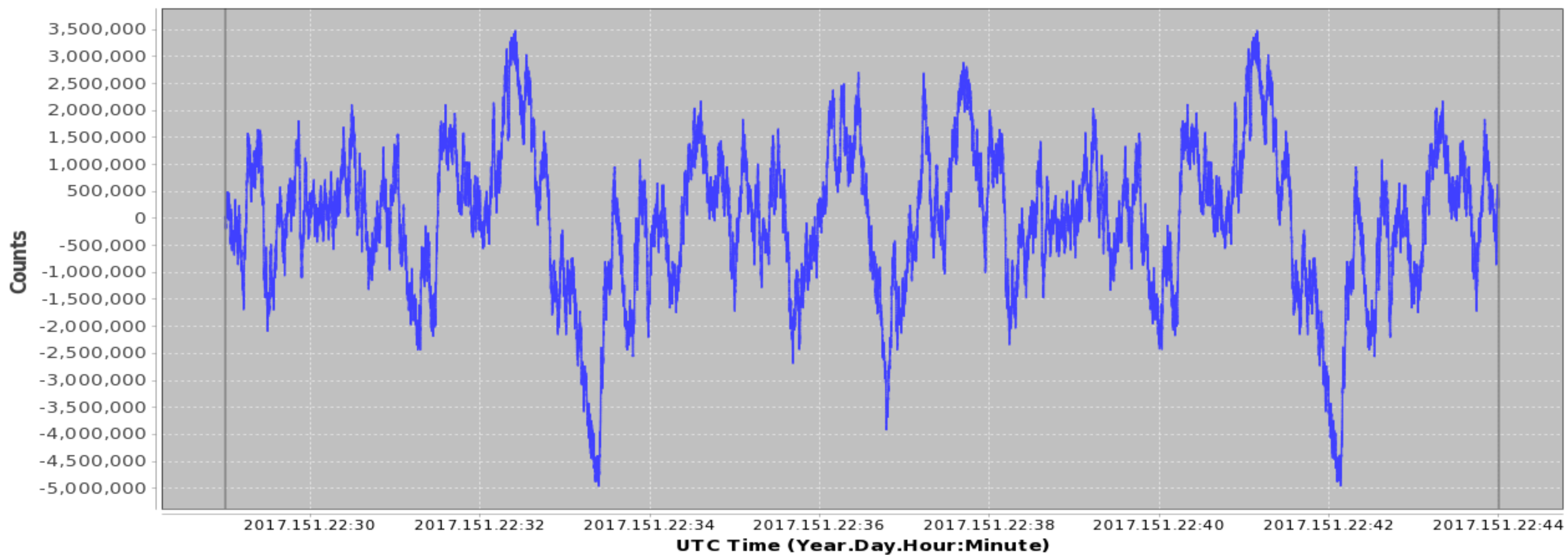
Init	Fit	Diff	Mean	PctDiff
-351.858	-447.9357	+96.0777	-399.8968	-21.449
+0	+0	+0	+0	+0
-21.9911	-90.5997	+68.6086	-56.2954	-75.7272
+0	+0	+0	+0	+0
-21.9911	-90.5997	+68.6086	-56.2954	-75.7272
+0	+0	+0	+0	+0



**IU\_CCM\_10\_BC1 (200.0 Hz)**



**IU\_CCM\_10\_EHZ (200.0 Hz)**



Response name: RESP.IU.CCM.10.BHZ\_nocoil

Gain stage values:

0: 1,993,130,000

1: 1,188

2: 1,677,720

3: 1

Normalization: 9.82411E12

Normalization frequency (Hz): 0.02

Transfer function is LAPLACIAN

Response input units: velocity (m/s)

Response zeros:

0: 0

1: 0

2: -21.9911

3: -21.9911

4: -351.858

Response poles:

0: -0.0123 + 0.0121i

1: -0.0123 - 0.0121i

2: -22.3068

3: -22.3068

4: -351.858

5: -501.105

6: -501.105

7: -501.105

8: -501.105

9: -501.105

10: -501.105

11: -121.58 + 647.231i

12: -121.58 - 647.231i