

```
%~~~~~
%
% Compare_Gamma_FreqResponse
%
% Compare gamma computed for EQ14 chameleon data, with generic FP07
% response correction, vs a different (lower cutoff). Could this
% explain why gamma is so small?
%
% Looking at dT/dz spectra from EQ14 profile, it seemed like the FP07 roll-off
% occurred at lower frequencies (~7-10Hz) than the generic cutoff used (32Hz)
%
% Results: gamma is increased slightly, but not enough to make it near 0.2
%
% 10/18/16 - A.Pickering - andypicke@gmail.com
%~~~~~
```

```
clear ; close all

addpath /Users/Andy/Cruises_Research/GenMatlabFunctions/

% load data w/ generic freq response
load('/Users/Andy/Cruises_Research/ChiPod/Cham_Eq14_Compare/Data/chameleon/processed/Cstar=0_6
cham0=cham; clear cham

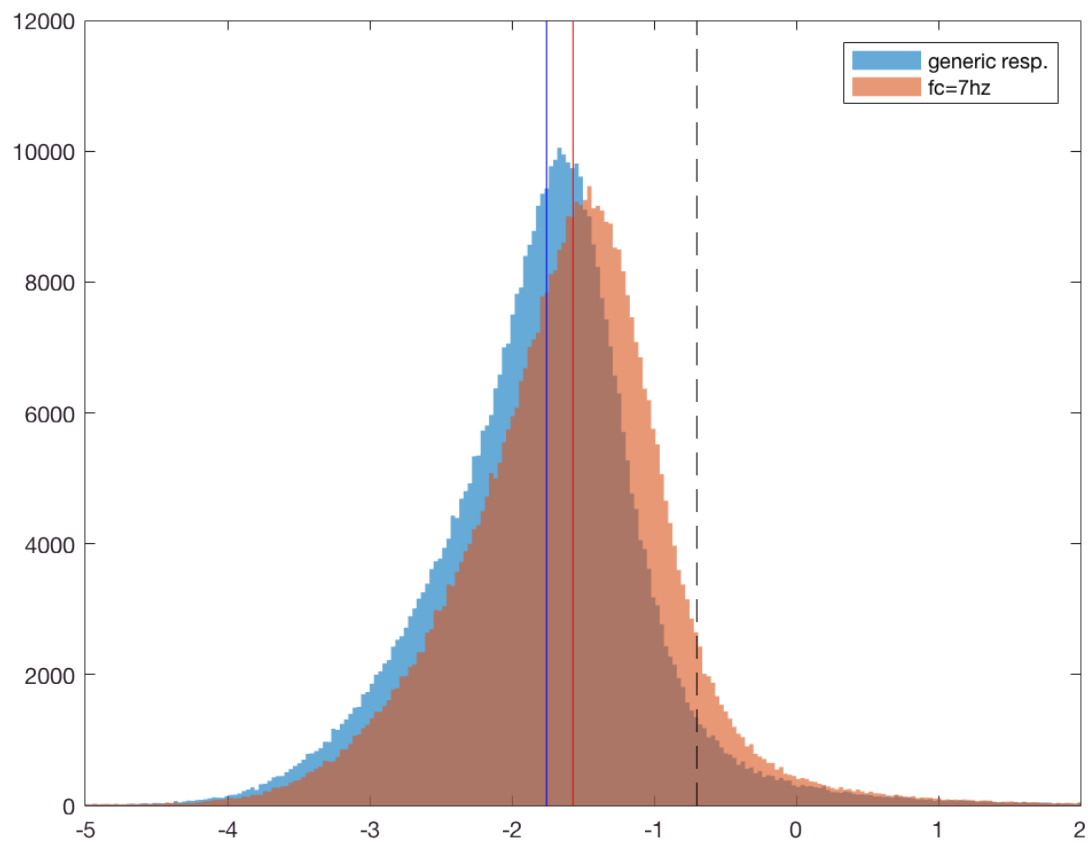
% load data w/ different freq respon.
load('/Users/Andy/Cruises_Research/ChiPod/Cham_Eq14_Compare/Data/chameleon/processed_AP_7hz/su
cham1=cham; clear cham

% compute gammas

gam0 = cham0.N2 .* cham0.CHI ./2 ./ cham0.EPSILON ./ (cham0.DTDZ_RH0ORDER.^2);
gam1 = cham1.N2 .* cham1.CHI ./2 ./ cham1.EPSILON ./ (cham1.DTDZ_RH0ORDER.^2);
```

```
% Plot

figure(1);clf
h0=histogram(log10(gam0(:)), 'edgecolor', 'none');
hold on
h1=histogram(log10(gam1(:)), h0.BinEdges, 'edgecolor', 'none');
xlim([-5 2])
legend([h0 h1], 'generic resp.', 'fc=7hz')
freqline(nanmedian(log10(gam0(:))), 'b');
freqline(nanmedian(log10(gam1(:))), 'r');
freqline(log10(0.2), 'k--');
```



%%

Using a lower frequency correction cutoff increases gamma a bit, but nowhere close to 0.2

```
nanmedian(gam0(:))
```

```
ans = 0.0175
```

```
nanmedian(gam1(:))
```

```
ans = 0.0269
```