Calculates IIR filter coefficients.

$N := 1024$ $\omega := \text{dspl\_linspace}(0, \pi, N, \text{"periodic"})$ $\text{appVersion}(4) = \text{"0.99.7921.69"}$

$ord_{lpf} := 6$ $ord_{hpf} := 6$ $ord_{bpf} := 12$ $ord_{bsf} := 12$ $rp := 2$ $rs := 60$ $f_1 := \begin{bmatrix} .3 & -100 \\ .3 & 5 \end{bmatrix}$ $f_2 := \begin{bmatrix} .7 & -100 \\ .7 & 5 \end{bmatrix}$

$\omega := \frac{\omega}{\pi}$

$$filter\_eval(ord, \omega_0, \omega_1, ftype) := \left| \begin{array}{l} ba := \text{dspl\_iir}(rp, rs, ord, \omega_0, \omega_1, ftype) \\ [b\ a] := [ba_1\ ba_2] \\ \text{dspl\_filter\_freq\_resp}(b, a, ord, \omega, \text{"mag|logmag"})_1 \end{array} \right.$$

$mag_{11} := filter\_eval(ord_{lpf}, .3, 0, \text{"butter|lpf"})$ $mag_{12} := filter\_eval(ord_{lpf}, .3, 0, \text{"cheby1|lpf"})$

$mag_{13} := filter\_eval(ord_{lpf}, .3, 0, \text{"cheby2|lpf"})$ $mag_{14} := filter\_eval(ord_{lpf}, .3, 0, \text{"ellip|lpf"})$

$mag_{21} := filter\_eval(ord_{hpf}, .3, 0, \text{"butter|hpf"})$ $mag_{22} := filter\_eval(ord_{hpf}, .3, 0, \text{"cheby1|hpf"})$

$mag_{23} := filter\_eval(ord_{hpf}, .3, 0, \text{"cheby2|hpf"})$ $mag_{24} := filter\_eval(ord_{hpf}, .3, 0, \text{"ellip|hpf"})$

$mag_{31} := filter\_eval(ord_{bpf}, .3, .7, \text{"butter|bpass"})$ $mag_{32} := filter\_eval(ord_{bpf}, .3, .7, \text{"cheby1|bpass"})$

$mag_{33} := filter\_eval(ord_{bpf}, .3, .7, \text{"cheby2|bpass"})$ $mag_{34} := filter\_eval(ord_{bpf}, .3, .7, \text{"ellip|bpass"})$

$mag_{41} := filter\_eval(ord_{bsf}, .3, .7, \text{"butter|bstop"})$ $mag_{42} := filter\_eval(ord_{bsf}, .3, .7, \text{"cheby1|bstop"})$

$mag_{43} := filter\_eval(ord_{bsf}, .3, .7, \text{"cheby2|bstop"})$ $mag_{44} := filter\_eval(ord_{bsf}, .3, .7, \text{"ellip|bstop"})$