First Layer Filters ShallowNet Filter<sub>3</sub>:  $\beta_1$ Filter<sub>0</sub>:  $\delta$ Filter<sub>1</sub>:  $\theta$ Filter<sub>2</sub>:  $\alpha$ -10-10-10-10Magnitude<sub>[dB]</sub> -3 -20Magnitude<sub>[dB]</sub> Magnitude<sub>[dB]</sub> Magnitude<sub>[dB]</sub> -30 **-**30 -30-40 **-50** -50 **-**50 --60 -60-60-60-70 **-70** -70**-70**  $\beta_3$ α 36 20 3, 30 20 20 2000 28 \$6 S  $f_{[Hz]}$  $f_{[Hz]}$  $f_{[Hz]}$  $f_{[Hz]}$ Filter<sub>6</sub>: γ Filter<sub>5</sub>:  $\beta_3$ Filter<sub>4</sub>:  $\beta_2$ -10-10-10Magnitude<sub>[dB]</sub> -20Magnitude<sub>[dB]</sub> Magnitude<sub>[dB]</sub> -30 -30 -50 -50-60 -60-60-70 -70 -70α K

 $f_{[Hz]}$ 

 $f_{[Hz]}$ 

 $f_{[Hz]}$