Subject: Re: Low pass filter
Posted by Mark D. Williams on Fri, 25 Feb 2000 08:00:00 GMT
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Mike wrote:
>
> Hi,
>
> I was wondering if anyone could point me in the direction of a library
> that produces a lowpass filter to filter high frequency data from an
> hourly time series?

Have you tried DIGITAL_FILTER? I'm using PV-WAVE, but looking in the .pro source for it, it looks like something common to both IDL and PV-WAVE. It produces a kernel of convolution coefficients, and it is tune-able, allowing you to vary the low and high frequency cutoffs of the filter, as a fraction of the Nyquist frequency.

Once it has spit out the kernel coefficients, you just use them in CONVOL to filter your signal, a la:

```
flow = 0.20 ; low frequency cutoff as fraction of Nyquist frequency
fhigh = 0.85 ; high frequency cutoff as fraction of Nyquist frequency
gibbs = 50 ; approx size in dB of gibbs oscillations (a good guess will
work here)
order = 20 ; number of terms in filter

kernel = DIGITAL_FILTER(flow, fhigh, gibbs, order)
filtered = CONVOL(signal, kernel)
```

Hope this helps,

M. Williams
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