Subject: How to obtain running averages for different time scales in IDL?
Posted by atmospheric physics on Thu, 30 Jan 2014 16:00:56 GMT
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Hello,

Can anyone provide me information on how to compute running averages for different time scales for a variable, which is a function of time @ 1 sec resolution?

I wanted to obtain the running averages of the variable at different time stamps, say 1, minute, 5 minutes, 15 minutes, 30 minutes, 1 hour etc. and then calculate the residue of the running average values of the variable w.r.t the raw variable data. Any IDL examples will be of great help.

Thanks in advance...

Subject: Re: How to obtain running averages for different time scales in IDL?
Posted by on Thu, 30 Jan 2014 16:23:04 GMT
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Den torsdagen den 30:e januari 2014 kl. 17:00:56 UTC+1 skrev Madhavan Bomidi:
> Hello,
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>
>
>
> Thanks in advance...

I'm not sure what you mean by wanting the running average at just a number of time stamps. Is this similar to what you want to do?

```
IDL> a=randomn(seed,1000)
IDL> cgplot,a
IDL> N=10
IDL> b=convol(a,replicate(1.,N)/N)
IDL> cgplot,/over,b,color='red'
IDL> N=100
IDL> b=convol(a,replicate(1.,N)/N)
```

IDL> cgplot,/over,b,color='blue'

Then you just have to figure out N for the time scales you are interested in.

Subject: Re: How to obtain running averages for different time scales in IDL?
Posted by Matthew Argall on Thu, 30 Jan 2014 18:43:32 GMT
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> Can anyone provide me information on how to compute running averages for different time scales for a variable, which is a function of time @ 1 sec resolution?

I do not use the Convol function ever, but you can do it using Smooth().... See Phil Blitzer's answer here:
https://groups.google.com/forum/#!topic/comp.lang.idl-pvwave /rIl0HsZtpGE

Adding to that, look at the EDGE_TRUNCATE keyword in Smooth()

```
samples_per_second = 1
nSamples = 86400 * samples_per_second
seconds_per_minute = 60

time = findgen(nSamples)
data = randomu(0, nSamples)
data_avg = smooth(data, samples_per_second*seconds_per_minute)

residue = data - data_avg
```
