Subject: Re: CHISQR_CVF question. -RESOLVED
Posted by Craig Markwardt on Sat, 22 Aug 2009 17:57:17 GMT
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On Aug 20, 2:39 pm, "R.G. Stockwell" <noemai...@please.com> wrote:
> "R.G. Stockwell" <noemai...@please.com> wrote in message
>
> news:h6jv18$4cf$1@aioe.org...
>
>> "Craig Markwardt" <craig.markwa...@gmail.com> wrote in message
>> news:cab41ca6-e1a4-4f73-851f-8b25ab0c1e58@k26g2000vbp.google groups.com...
>> On Aug 19, 4:42 pm, "R.G. Stockwell" <noemai...@please.com> wrote:
>>> "Paolo" <pgri...@gmail.com> wrote in message
>
> snip a lot
>

A few comments...

> The upshot is, given a probablity level (or significance level) of 95%
> or 0.95 (and degrees of freedom = 2 for 1D power spectra) then the
> constant 95% signicicance level is given as follows:

You need to be explicit that you are using FFT(,-1) for your powers.

As I was trained,
0.95 is the confidence level (what you call "siglevel")
0.05 = 1-0.95 is the significance level

So if you measure a really high power, it's significant at a 10^{-8}
level or whatever, or equivalently, you can be 0.99999999 confident of
a detection.

> cutoffs= CHISQR_CVF(1-siglevel, degreesoffreedom)
> cutoffs = cutoffs*stddeviation^2/(2*length)
>
> stddeviation is the standard deviation of the random time series.
> Length is the number of points in the time series.
>
> If you plot cutoff over your power spectrum that is the 95% level.
> Therefore 5% of the points (remember to double it if you only have half the
> spectrum)
> will lie above that line, 95% below. You can input any siglevel you want.
> Also, this is normalized to fit any power spectra, invariante to # of points
> and
> to the variance of the noise.
>
> cheers,

> bob
>
> thanks for all the responses.