
Subject: statistical filtering algorithms in IDL
Posted by [robb](#) on Thu, 31 Oct 2002 19:12:39 GMT
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Has anyone implemented the Kalman filter in IDL? From what I understand this filter technique is built into every GPS receiver and it is an excellent way to increase the signal to noise ratio (SNR) in many different applications. I'm interested in using this filter to help resolve weak signals in the output of a single-photon sensing APD detector. The output of such a detector is a "TTL" pulse for every detected photon and the count-rate history of the detector is recorded as the # of pulses in short time intervals (10-100 usec) - a digital record. The noise in the system comes from various sources: shot noise in the APD itself, optical noise from the light source (Raman scatter, etc) and other sorts of unwanted photons - all stochastic. The Kalman filter or extended Kalman filter might really help increase the SNR. I'm looking for a jump start in implementing this algorithm.

Subject: Re: statistic
Posted by [JD Smith](#) on Thu, 13 Mar 2003 21:12:18 GMT
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On Thu, 13 Mar 2003 11:49:22 -0700, Antonio wrote:

> I everybody, I am stuck on problem.
>
> I have a distribution of data and I want to plot the histogram. But, in
> this histogram, I want to weight (with a function that I known) each
> data that fall inside the interval $n, n+1$.
>
> Is there any routine to do that?
>
> Thank a lot!

See the HISTOGRAM tutorial, problem: "Total data together according to a separate list of indices", where your weight vector is the data vector:

http://www.dfanning.com/tips/histogram_tutorial.html

JD
