Subject: CONVOL with 2D array and 1D kernel
Posted by Eric Hudson on Fri, 09 Mar 2007 14:32:35 GMT
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Hi,

I have a strange problem with CONVOL (stranger I think than the typical). I have a 2D array (15000x41) that I want to convolve with a symmetric 1d kernel (1x5). If I do the following:

convol(2darr,kernel,/edge_truncate)

it returns an array the size of 2darr as expected EXCEPT row 39 is all 0. If I take a small subset of the 2darr:

convol(2darr[0:486,*],kernel,/edge_truncate)

then it works (i.e. row 39 isn't 0). If I add just one more curve:

convol(2darr[0:487,*],kernel,/edge_truncate)

then suddenly row 39 in all curves is 0.

Nothing else changes -- all 40 other rows are right. Anyone have any idea what is going on? I'm using IDL 6.0.

Also, there seems to be a lot of confusion about what CONVOL really does. Is there a definitive, readable, source so I can make sure that I'm really doing what I want here (a true mathematical convolution where I've made the array a bit bigger on the edges by duplicating the top & bottom rows, done the convolution, and then chopped off the edges to minimize edge effects).

Thanks,
Eric