
Subject: NUFT code... not working
Posted by [the_cacc](#) on Sun, 29 Jun 2003 15:00:16 GMT
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Yo,

I've been trying to implement the NUFT as discussed previously here
(<http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&threadm=4a097d6a.0304062309.49c72f6d%40posting.google.com&num=3&prev=/groups%3Fsourceid%3Dnavclient%26q%3Dfourier%2Btransform%2Bnonuniform>)

I've got some code but it don't seem to work! It's only short & I was hoping someone might be able to look & see what's going wrong. I've listed it below.

Thanks,
Ciao.

```
;-----  
PRO sim_nuft  
  
; Program to do non-uniform FT.  
;  
;-  
  
; Resolution.  
  p=64  
  
; Create object.  
  x = FLTARR(p)  
  x[1*p/10:9*p/10] = 1.0  
  x[4*p/10:6*p/10] = 0.5  
  
; Indices for where we have x values.  
  ix = FINDGEN(p)  
  
; Indices for where we want k values.  
  ik = ix + 0.5  
  
; Resample using FFT & interpolation.  
  k = FFT(x)  
  k_interp = INTERPOLATE(k,ik,CUBIC=-.5)  
  
; Resample directly.  
  k_direct = COMPLEXARR(p)  
  j = COMPLEX(0,-2 * !PI)
```

FOR $i = 0, p-1$ DO BEGIN

$$G = ik[i] * ix / p$$

```
k_direct[i] = TOTAL(x * EXP(j * G))
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ENDFOR

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Problem:

k_interp is the interpolated k-values

k_direct is the directly nuft'd values

They should be the same, or at least similar

but they are very different.

stop

END
