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&a
mp;threadm=4a097d6a.0304062309.49c72f6d%40posting.google.com
&rnum=3&prev=/groups%3Fsourceid%3Dnavclient%26q%3Dfo
urier%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))

    ENDFOR

;
;   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

;-------------------------------------------------
```