Subject: Re: How to rebin complex array?
Posted by Timm Weitkamp on Wed, 14 Apr 2004 07:39:21 GMT
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On 13.04.04 at 15:57 -0700, Yunxiang Zhang wrote:

> I wanna do the following thing as fast as possible.
>
> ;creat a complex array
> a=complexarr(na)
> ;replicate the array k times
> b=rebin(a,na,k)
>
> But rebin won't accept complex array. :( What should I do?

This here is probably what you want:

```
a=complexarr(na)   ;  create a complex array
u = 1 + FLTARR(k)  ;  create unit vector with k elements
b = a # u          ;  matrix multiplication of a and u
```

By the way, there is a good reason for REBIN not to work on complex arrays, and that is the fact that there is not really any proper way of interpolating between two complex values. (You could argue that next-neighbor sampling should still be possible.)

> Another similiar question is what is the best solution to replicate a 2d
> image eg dist(512,512) k times to get a k-frame "still movie" as a 3d array
> movie(512,512,k) without using any loops?

As previous posters have said, there's no reason why REBIN shouldn't work here, given that DIST yields a real-valued result. But *if* you did have a complex array that you wanted to replicate in the manner described above, or if you want to avoid REBIN for some other reason, and not use loops, then I'd probably do this:

```
s = SIZE(image)
movie = MAKE_ARRAY(s[1], s[2], TYPE=s[3])
movie[*] = image[*] # (1.0 + FLTARR(k))
```

Cheers,

Timm

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