
Subject: ROT is ROTTEN

Posted by [Bhautik Jitendra Josh](#) on Wed, 21 Nov 2001 04:56:04 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hi all,

The question I put to you all today is this: is ROT completely and utterly broken?

Lets take a nice and normal 5x5 float array:

```
MOO>a=findgen(5,5) & print, a
```

0.00000	1.00000	2.00000	3.00000	4.00000
5.00000	6.00000	7.00000	8.00000	9.00000
10.0000	11.0000	12.0000	13.0000	14.0000
15.0000	16.0000	17.0000	18.0000	19.0000
20.0000	21.0000	22.0000	23.0000	24.0000

Now, lets do a quick checksum:

```
MOO>print, total(a)
```

```
300.000
```

So any 90 degree rotations we perform should maintain this. Lets try it out:

```
MOO>print, total(rot(a,90))
```

```
296.000
```

OMG! *world in crisis* How to fix? Use interpolation.

```
MOO>print, total(rot(a,90,/INTERP))
```

```
300.000
```

phew Lets do a clockwise rotation instead.

```
MOO>print, total(rot(a,-90,/interp))
```

```
300.000
```

So, for those who can remember their high school math, -90 degrees is the same as a 270 degree rotation.

```
MOO>print, total(rot(a,270,/interp))
```

```
290.000
```

argh! 360 degrees - a complete rotation, no difference, right?

```
MOO>print, total(rot(a,360,/interp))
```

290.000

Perhaps its the interpolation thats stuffing it up. Lets leave it out.

```
MOO>print, total(rot(a,360))
262.000
```

brain melts

It doesn't make a difference whether you use the interp or cubic keywords, nor if you shift it so that the centre of rotation is set to be the corner of the pixel rather than the centre of the pixel. If it doesn't work for multiples of 90 it certainly is going to have issues with arbitrary angles.

ROT is bad. Can it be fixed? Is there a (fast) alternative?

Cheers,
Bhautik

```
/
|bjoshi@geocities.com | phone: 0404032617 |
|ICQ #: 2464537 | http://cow.mooh.org |
\-----( )-----/
      ( )      |..|--\
    /--|^^|    moo | |--|
    |--| |     \OO//|^
    ^||\oo/ moo
```
