Subject: Re: Euler formula with complex numbers
Posted by Robert Stockwell on Fri, 22 Feb 2002 21:39:57 GMT
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Try this:

```
z=complex(3,2)
mag=abs(z)
phi=atan(imaginary(z),double(z))
z_prime=mag*exp(complex(0,1)*phi)


print,'mag ',mag
print,'phi ',phi
print,'z ',z
print,'z_prime ',z_prime
```

RESULTS:

```
IDL> .GO
mag       3.60555
phi       0.58800260
z (      3.00000,      2.00000)
z_prime (       3.0000000,       2.0000000)
```

Cheers,
bob

Jï¿½lio Maranhï¿½o wrote:

> Look into the "IDL Online Help" in "What's New in IDL 5.5". Search for ATAN
> and look for the changes.
>
> ATAN(z) doesn't return the phase anymore. It returns a complex.
> Use ATAN(IMAGINARY(z), REAL_PART(z)) instead. I know it's awful, but...
>
> Cheers.
>
> Jï¿½lio Maranhï¿½o
>
>
> "frederic" <raison@srl.caltech.edu> escreveu na mensagem
> news:9f6b22a3.0202220953.2ceb4f73@posting.google.com...
> I start from:

>
> z=complex(3,2)
> mag=abs(z)
> phi=atan(z)
>
> and I want to come back to z with mag and phi in this way:
>
> z_prime=mag*exp(complex(0,1)*phi)
>
>
> and I get z_prime=(0.715179,   3.02955) which is different from z.
>
>
> What is wrong in the way I use IDL?
>
> Thank you
>
>
>
