Subject: complex math error?
Posted by heard on Wed, 17 May 1995 07:00:00 GMT
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Hi,

 I think we've found an erratic math error in IDL V3.6 (running on a PPC and
an SGI results were similar). Here it is:


```
    print, exp( complex(0,1)*sqrt(2.)*10. )^sqrt(2.)
```

Execute the above line a time or two and you'll get the wrong answer, then try
almost any simple math operation on a complex number. i.e.,

```
    print, complex(0,1)^2
```

Chances are you'll get a wrong answer again. Try the last operation again
and you might then get the correct answer. It's an erratic sort of bug and
seems to have a lot to do with complex numbers and sqrt functions. But it
is unpredictable. The only way we have been able to induce it so far is to
raise a complex exponential to a power involving a sqrt. I guess you should
be wary of any complex math in IDL until RSI has had a look at it. Also, the
bug may not exist in V4. I think that WAVE may not allow these kinds of
operations on complex values, so in a way that will protect you from this
bug (I might be wrong about this since I don't have a current WAVE version
to try it on).

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Any opinions expressed are my own and not necessarily those of my employer.
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