
Subject: Re: complex math error?

Posted by [asb](#) on Tue, 23 May 1995 07:00:00 GMT

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In article <heard.1151115158F@131.136.96.1> heard@drep.dnd.ca (Garry J. Heard) writes:

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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.

The error appears to occur only when complex numbers and real numbers are used with certain functions. The command

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

gives the correct result.
