
Subject: Re: Speeding up xy distance calculations using complex numbers

Posted by [Lajos Foldy](#) on Mon, 20 May 2013 11:02:57 GMT

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On Saturday, May 18, 2013 11:16:53 AM UTC+2, kagol...@lbl.gov wrote:

>
> distance_squared = z1 * conj(z1)
>

distance_squared is complex, it should be REAL_PART(z1 * conj(z1)), or calculate distance with ABS(z1). (ABS is better, try z1=complex(1e20,1e20))

Also, x^2 can be replaced with $x*x$:

```
tmp1=x-p[0]
tmp2=y-p[1]
distance_squared = tmp1*tmp1+tmp2*tmp2
```

This is the fastest on my machine.

regards,
Lajos
