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

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

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

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
