
Subject: Re: machine precision

Posted by [jameskuyper](#) on Tue, 19 May 2009 01:44:42 GMT

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Wox wrote:

> On Mon, 18 May 2009 13:33:48 GMT, James Kuyper

> <jameskuyper@verizon.net> wrote:

>

>> At a minimum, you should use $\text{pres} * (f1^2 + f2^2)^{0.5}$ instead of pres for

>> the following comparison. eps gives you the relative precision, not the

>> absolute precision; it needs to be scaled by the numbers you're working

>> with.

>

> Now this I didn't realize! So it's the precision of the mantisse or

> something?

Yes. If you don't understand why, I recommend re-reading the "The Sky is Falling!" website that David referred you to, and in particular the paper it refers to titled "What Every Computer Scientist Should Know about Floating Point Arithmetic".
