
Subject: Re: modulo reset

Posted by [Ralf Schaa](#) on Tue, 23 Nov 2004 19:36:59 GMT

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James Kuyper wrote:

> Ralf Schaa wrote:

> ...

>

>> I am reading binary data (not longer than 32 bit, and I store it in

>> ULL as suggested)

>> and the 'modulo reset' I talked about may appear at one datafield:

>> that is in an accumulated

>> "Doppler" cycle count.

>> By differentiating with respect to time, one can get the true doppler

>> count.

>

>

> "Differencing", not "Differentiating". You differentiate a continuous

> function of time. For a discontinuously sampled function, you can't

> differentiate, you can only calculate finite differences.

yep, of course

>> Than the documentation says, when a modula reset occurs , add 2^{32} .

>> I think, this means when the counter is full and is starting with zero

>> again. than add the 2^{32} .

>> But I don't see what adding 2^{32} exactly would do ...

>

>

> Let's assume that the current cycle count is $t_0=2^{32}-5$. 20 cyles later

> the true count would be $2^{32}+15$. However, because it reset at 2^{32} , the

> actual number in the cycle count would be $t_1=15$. If you calculate the

> time difference as $dt = t_1-t_2$ while storing the value in, for instance,

> a 64 byte integer or floating point type, then the dt will be

> $15-(2^{32}-5) = 20-2^{32}$. To get the correct number of cycles, you have to

> add in 2^{32} , leaving you with $dt = 20$.

sounds good, i'll try that.

thanks
