

Re: Stdev by dividation

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On 14 Oct 2004 02:03:02 -0700, jorgen.borrebaek@ati-as.no (Boris) wrote:

> *Hi,*
>
> *Being somewhat uncomfortable with statistics i adress this question to*
> *this group of experts!*
>
> *I want to pool the standard deviations from mean values divided on*
> *each other.*
>
> *Example: Value1: 75 , stdev1: 35. Value2: 6, stdev2: 2.*
>
> *Value2 divided on Value1; $6/75 = 0,08$.*
>
> *What now with the pooled deviation?*
>
> *The root of sum of squares gives 35.51, but i can't put $0,08 \pm 35.51$*
> *in my table!*
>
> *Solution anyone?*

As Stefano suggests, google on "error propagation".

But are you **sure** you can't put " ± 35.51 " ?

– Assuming normality or any other long tail for "75", this ratio has a denominator that potentially includes zero.

In that case, the "propagation of error" formula might underestimate the true variance, since that could be infinite.

Now, if the variances depend on the means, that could be valuable information for framing the problem — Using some known distributional form might narrow the estimate (or else, show that the variance is, indeed, huge).

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<http://www.pitt.edu/~wpilib/index.html>