Subject: Re: 2D Pearson correlation coefficient
Posted by Phillip Bitzer on Fri, 31 Jan 2014 16:11:57 GMT
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OK, a few things.

1) That is not a Pearson correlation. Coefficient of determination, maybe.

2) Like Craig said, if you don't know anything about what the weights should be, you should use one. You *could* weight by some knowledge of the errors in the data. We don't know what they are, so we can't tell you what to use. Besides, you're the person closest to the data. You would know best.

3) But, you better have good reason for weighting the data. I strongly suggest you curl up with Bevington's Data Reduction book before you go manipulating the data.

4) Matt told you how to do this. But here goes anyway:

```
;get some data
m = RANDOMU(seed, 100)
o = RANDOMU(seeed2, 100)

wi1 = 1 ;assuming no points are "more important" than others
wi = (randomn(1l, 100)+2) > 0 ;Just making up *something* for the weights
wi /= TOTAL(wi) ;make sure weights add to one

mMean = MEAN(m)
oMean = MEAN(o)

r2 =  TOTAL(wi1*(m-mMean)*(o-oMean))/TOTAL(wi1*(m-mMean)^2)/TOTAL( wi1*(o-oMean)^2)
```

Of course, you should make this a function, with appropriate parameters, and then try it with arbitrary weights.