Subject: Matching data in different time resolution
Posted by Balt on Tue, 25 May 2010 20:48:38 GMT
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Hi all,

I'm looking for an elegant solution (i.e. one that does not involve nested FOR loops) for the following problem:

I have two independent data acquisition systems that sample data at different intervals and different start times. Let's say one samples in 10 second intervals, the other one in 5 second intervals. I now would like to apply a correction determined by one of the systems to the other. This means I need to match up the data points in the corresponding vectors. Let's assume s1 is system one, s2 is system 2 delivering the correction values. I have two vectors for each system, one containing the timestamps, the other containing the measured data.

For example:

s1_time = [0, 10, 20, 30, 40, 50]
s1_data = [4, 5, 6, 7, 8, 9]

s2_time = [35, 40, 45, 50, 55, 60]
s2_data = [1, 2, 3, 2, 1, 2]

This presumably is a rebinning exercise of sorts to first make s2 data match:

s2_time_rebinned = [30, 40, 50]
s2_data_rebinned = [1, 2.5, 1.5]

Then adding the result to the s1 vectors:

res_time = [30, 40, 50]
res_data = [8, 10.5, 10.5]

Does anyone have pointers/ideas how to best go about this in IDL?

Cheers

- Balt