
Subject: Help: Interpolation of 1D irregularly gridded data

Posted by [dutch](#) on Thu, 01 Apr 1993 15:50:16 GMT

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I need to interpolate from 1-dimensional irregularly sampled data. i.e. interpolate values from $Y(t)$ where t is irregularly spaced.

IS THERE AN IDL 3.0 ROUTINE TO DO THIS EASILY AND QUICKLY.

I have written a routine to do this, but it can be quite slow, especially since I am working with large vectors. (my lookup table contains up to $n=200$ irregularly spaced points, and I need to interpolate up to $m=30000$ points from the table).

I have a written fully vectorised routine, which requires a $m*n$ matrix, this is ok provided $m*n < 500000$ otherwise malloc fails (for the numbers quoted above $m*n=6000000!$) as I don't have enough memory, and I have to switch to a less vectorised (and slower) alternative algorithm.

I noticed that a 1-D INTERPOLATE routine is now available in IDL 3.0 but it assumes REGULARLY gridded data. I have also investigated the new 2-D interpolation routines for irregularly gridded data (TRIANGULATE, TRIGRID) but I can't make these work for 1-D data.

ANY ADVICE OR SUGGESTIONS WELCOME!

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#####  
# Michael Dutch          email: dutch@elpp1.epfl.ch #  
# Centre de Recherches en Physique des Plasmas      #  
# Ecole Polytechnique Federale de Lausanne          #  
# 21 Ave des Bains          Aussie.Abroad #  
# CH-1007 Lausanne, SWITZERLAND    _--_ \  #  
#----- / \ #  
# I'd rather have a full bottle in front  \_--_ /  #  
# of me than a full frontal lobotomy.      v  #  
#####
```
