
Subject: Expand

Posted by [Kelly Dean](#) on Mon, 05 Jan 1998 08:00:00 GMT

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I am reading some AVHRR LAC data in the Level 1B format. The image provides 51 latitude/longitude pairs for each 2048 pixel scan line. They are sampled every 40 points starting at point 25 (25, 65, 105,..., 1945, 1985, 2025).

I created a simple IDL routine to expand the 51 values to 2048 values using FOR loops. I am looking for suggestions to make this more efficient.

Kelly Dean

```
+++++INTER2048+++++
FUNCTION INTER2048, array51

    start = 24
    interval = 40
    line_pix = 2048
    array2048 = FLTarr(2048)
;
; Assign repeatedly used variables.
;
    value = array51
;
; Take care of the beginning part (extrapolation).
;
    dvalue = (value(1) - value(0)) / interval
    array2048(start) = value(0)
    FOR i = start - 1, 0, -1 DO BEGIN
        array2048(i) = array2048(i+1) - dvalue
;    PRINT, ' li >', i, array2048(i)
    ENDFOR

    FOR i = 0, 49 DO BEGIN
        dvalue = ( value(i+1) - value(i) ) / interval
        FOR j = ( start + i * interval + 1 ), (start + (i+1) * interval ) DO
        BEGIN
            array2048(j) = array2048(j-1) + dvalue
;        PRINT, ' lj >', j, array2048(j)
        ENDFOR
    ENDFOR
;
; Take care of the ending part (extrapolation).
```

```
;
FOR k = j, line_pix-1 DO BEGIN
    array2048(k) = array2048(k-1) + dvalue
; PRINT, 'lk >',k,array2048(k)
ENDFOR

RETURN, array2048
END
```
