
Subject: Trouble with TRIANGULATE/TRIGRID.

Posted by [Bill Dieckmann](#) on Sun, 03 Oct 1999 07:00:00 GMT

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I'm getting unexpected results with triangulate/trigrd when I use non-integer output grid spacing. Well, the situation is a bit more specific than that. Is there anyone comfortable enough with these functions to look and explain this program:? Please reply via email and this newsgroup. Thanks.

```
;
;
; Exposes trigrd limitation ?
;
```

PRO trigrd_test

```
m = 24    ; Results are sensitive to m,n
n = 12
```

```
normalized_y = 1 ; Set to 1 for unexpected output
extended_grid = 0 ; Set to 0 for unexpected output
```

```
x = findgen(m) # replicate(1,n)
if normalized_y then begin
    y = ((findgen(n)/n) ## replicate(1,m)) + x/m/n
endif else begin
    y = ((findgen(n)) ## replicate(1,m)) + x/m
endelse
```

```
z = fltarr(m,n) + 1.0
S = size(z)
```

```
window, /free, xsize=1000, ysize=750
win = !d.window
plot, x, y, psym = 1
```

```
triangulate, x, y, tr
```

```
for i = 0, n_elements(tr)/3-1 do begin ; Show the triangles.
    t = [tr[*],i], tr[0,i] ; Subscripts of
vertices [0,1,2,0].
    plots, x[t], y[t], color=127 ; Connect triangles.
endfor
if normalized_y then begin
    grid_spacing = [1.0, 1.0/S[2]]
    grid_limits = [0.0, 0.0, s[1]-1,
(s[2]-1+extended_grid)/float(s[2])]
endif else begin
```

```

        grid_spacing = [1.0, 1.0]
        grid_limits = [0.0,0.0, s[1]-1, s[2]-1+extended_grid]
    endelse
    ;
    ; Show the points at which we get strange output samples.
    ;
        oplot, indgen(s[1]), $

grid_limits[3]-grid_spacing[1]*extended_grid+fltarr(s[1]),ps ym=2

        out = fltarr(s[1],s[2]+extended_grid)
        out[0,0]=reform(trigrd(x, y, reform(z[*,*]), $
                        tr, grid_spacing,
grid_limits,xgrid=xg,ygrid=yg), $
                        s[1], s[2]+extended_grid)
    ;
    ; Show the computed grid intersections.
    ;
        xx = xg # replicate(1,S[2])
        yy = yg ## replicate(1,S[1])
        oplot, [xx],[yy], psym=6
    ;
    ; Print interpolated values of the top most row.
    ;
        print, out(*, n-1) ; Expecting replicate(1.0, m), or maybe
[0, replicate(1.0,m-2), 0].
        stop
        wdelete, win
end

```
