
Subject: Moving window mode

Posted by [Luke](#) on Mon, 09 Oct 2006 03:24:55 GMT

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I use smooth to calculate a moving window mean and have seen posts relating to other moving window moments, but can't figure out how to do a moving window mode (w/out nested loops).

Any ideas...?

Below is the code with nested loops I currently use...

```
function mode,arr ;code from JD Smith - (http://tinyurl.com/zpbxp)
  compile_opt idl2
  on_error, 2
  ;note... if array is multimodal,
  ;this function returns the LOWEST value
  ;of the equal highest frequency values
  void=max(histogram(arr,omin=mn),mxpos)
  mode=mn+mxpos
  return, mode
end
function focalmode, arr, win
  compile_opt idl2
  on_error, 2

  dims = size(arr,/dimensions)
  cols=dims[0]
  rows=dims[1]

  if win mod 2.0 eq 0 then win-=1 ;win needs to be an odd number
  win2=(win-1)/2 ;num pixels from centre pixel to edge of moving
window

  fm_array=arr

  for Y=0,ROWS-1 do begin
    ;watch out for the edges...
    ywin_u = y < win2      ;num pixels from centre pixel to upper
edge of moving window
    ywin_d = rows-1-y < win2 ;num pixels from centre pixel to lower
edge of moving window
    for X=0,COLS-1 do begin
      ;watch out for the edges...
      xwin_l = x < win2      ;num pixels from centre pixel to
left edge of moving window
      xwin_r = cols-1-x < win2 ;num pixels from centre pixel to
right edge of moving window
```

```
        ;Calc the mode
        fm_array[X,Y] =
mode(fm_array[X-xwin_l:X+xwin_r,Y-ywin_u:Y+ywin_d])
    endfor
endfor

return, fm_array

end
```

PS: verrry newbie in IDL, be nice ;)
