%replicate iMap Example #1 using Stat4Ci functions (single subject only)
%fjs 7-Sept-2012

%read-in iMap smoothed Fixation Duration Map (sigma=10)
%data from single subject (iMap demo subject number 2)
%smoothpic = 382 x 390 double (min=near zero, max=7.7737 sec)
load('data2smoothpic.mat'); %load smoothpic matrix
Ci = smoothpic;
%read-in face searchspace mask
%binary image mask: assume 0.0=reject; 1.0=accept for search)
load('facemask.mat');
searchmask = facemask;

%collect all Ci pixels specified by 'searchmask' and queue in 'searchpix'
%NOTE: Using '1' in mask image to select pixels (unlike DemoStat4Ci.m)
%Something quite fishy going-on in DemoStat4Ci example
searchpix = Ci(eq(searchmask,1));
%compute mean of Ci searchspace
meanCi = mean(searchpix(:));
%compute std of Ci searchspace
stdCi = std(searchpix(:));
%normalize Ci (Z-scored classification image)
ZSCi = ZScoreSCi(Ci,[meanCi, stdCi]);
%mask-out the background pixels
ZSCi = ZSCi.* searchmask;

sigma = 10; %std of gaussian smoothing filter
p = .05; %p-value
tC = 2.4; %threshold (for Cluster test), right eye N.S. at tc=2.7
Res = StatThresh(ZSCi, p, sigma, tC, searchmask), clc;

background = double(imread('facebackground.tif'));
tCi = DisplayRes(Res, background);
Output from MATLAB script: ‘CalderaExample1a.m’

Pixel Test, t = 3.88, pval = 0.050

Cluster Test, t = 2.40, pval = 0.050

Res =

ZSCI: [382x390 double]
tP: 3.875
p: 0.05
tC: 2.4
k: 778.62
FWHM: 23.548

<table>
<thead>
<tr>
<th>t</th>
<th>size</th>
<th>resels</th>
<th>Zmax</th>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>[2.40]</td>
<td>1647</td>
<td>2.97</td>
<td>6.15</td>
<td>251</td>
</tr>
<tr>
<td></td>
<td>[2.40]</td>
<td>788</td>
<td>1.42</td>
<td>4.50</td>
<td>158</td>
</tr>
</tbody>
</table>

P 3.88 - - - - -

p-value = [0/05]; FWHM = [23.5]; Minimum cluster size = 778.6