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%CalderaExample1c.m
%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

	t	size	resels	Zmax	x	y

C	[2.40]	1647	2.97	6.15	251	173
	[2.40]	788	1.42	4.50	158	177

P	3.88	-	-	-	-	-

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