finetweak May97 ing

NAME
finetweak -- find telescope tweak parameters from an image taken WITH a mask

USAGE
finetweak image catfile setfile holesize

PARAMETERS

image
Name of the (windowed) image taken WITH a mask.

catfile
Name of the LEXT catalogue file.

setfile
Name of the LEXT.SET file.

holesize
The diameter of the fiducial holes in arcsec.
In this task, this parameter affects the centroid algorithm.

DESCRIPTION
This task determines the centroid positions of the fiducial stars and the fiducial holes on an on-sky image taken with a mask in the aperture wheel. To measure the pixel coordinates on the image the interactive task 'imexamine' is used.

The differences in the measured positions of the stars and the holes are then transformed into telescope tweak parameters: offsets and rotation. Ask the TO to apply this tweak, which should bring the fiducial stars closer to the centre of the fiducial holes of the mask.

EXAMPLES
Take an image (RUN, not GLANCE) with the mask, at the required telescope position and rotator angle, and do

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finetweak r222401 mycat.cat
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Ask the TO to apply the recommended tweak (first the offset, then the rotation). This tweak should bring your fiducial stars closer to the centre of the mask holes.

Iterate the fine tweaks until the stars are properly positioned in the holes.

THE INTERACTIVE PART OF THE TASK
This task will display the section of the images which contains the fiducial stars; the stars are marked by a circle. The user is advised to adjust the colour scale of the image display tool such that the fiducial stars AND the fiducial holes are clearly visible.

The user has to point the cursor at the fiducial star marked by a BLUE circle, and has to press key -a- to activate the centroid algorithm. If key -a- is pressed more than once, the final press will be evaluated. Each press will be acknowledged by statistics appearing on

the terminal that runs IRAF. To advance to the next star, press -q-. To avoid a particular star to take part in the tweak fit, press -q- WITHOUT pressing -a- first.

On the image display the centroid positions of the stars will be marked by a RED circle. The centroid positions of the fiducial holes are indicated by a YELLOW circle.

When all fiducial stars have been marked by the user, the tweak will be computed.

If one of the centroid positions of the stars or holes seems wrong (judging from the RED and YELLOW circles), the task can be run again with the user discarding the star in the way described above.

A good tweak fit needs no less than 3 stars. Nevertheless, a tweak can be computed on only 2 stars.

TIME REQUIREMENTS
A lot less than doing it by hand.

BUGS
email John Telting, jht@ing.iac.es,
for bug reports and constructive remarks

SEE ALSO
ldsstweak, findwindow, roughtweak