

Making Star Trails

Key Stage 4

Topics covered: ICT, Earth's rotation, sidereal day, photo processing software

Watch the "Making star trails" video, <https://vimeo.com/64719515>

What do I need?

Hardware:

- ✓ 1 'lazy susan' spinning table (suggestion: SNUDDA from IKEA)
- ✓ 1 large cardboard box (at least bigger in length or breadth than the spinning table)
- ✓ 1 cardboard box of equal height or greater/ stack of books to safely support a desk lamp
- ✓ 1 desk lamp
- ✓ 1 sharp knife/ Stanley blade
- ✓ 1 pen/ pencil to punch holes and make markings

- ✓ 1 device with digital camera function (video recording)

Software:

- ✓ MPEG Streamclip <http://www.squared5.com/>
- ✓ Registax <http://www.astronomie.be/registax/>
Or Lynkeos (for Mac) <http://lynkeos.sourceforge.net/>

How do I get started?

After you've followed our video and recorded a video you need to transfer the file to a computer where you can use MPEG Streamclip to trim the video and change it into a sequence of images.

STAGE 1: TRIMMING

In the programme click '**File**' and '**Open Files...**' and open your video. Now you need to trim this to exclude the start and end of the video where you are putting the box over the camera and taking the box off the camera respectively.



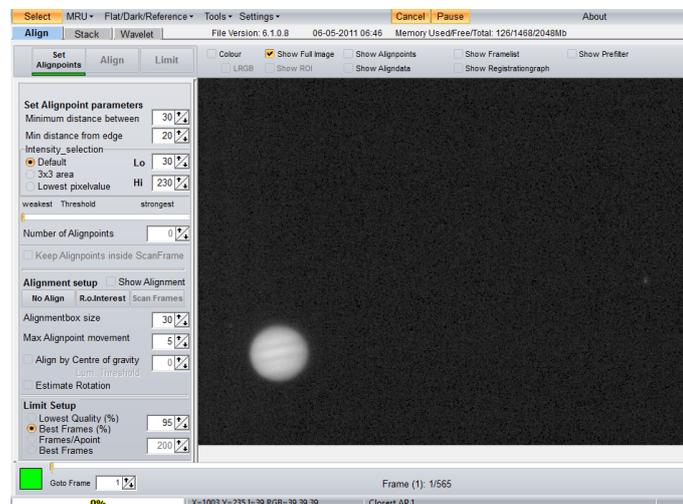
- Click along the bar below the video to where you've started turning the lazy susan table and press '**i**' on the keyboard.
- Next click along the bar to just before you've finished turning the table and press '**o**' on the keyboard.
- Finally press **Ctrl and t** to trim the clip (or alternatively **Cmd and t** if you're using a Mac).
- Go to '**File**' and '**Export to Other Formats...**' and choose '**Image Sequence**' from the top drop-down box.
- Click on the '**Options**' button to the right and select **JPEG** as the format and click OK.
- In the previous window click OK, make a folder and save the image sequence there.

STAGE 2: STACKING

- Open Registax and click '**Select**' in the top left corner and open.
- Click **Set Alignpoints**
- Click **Align** (this may take a while)
- Click **Limit** (when previous action is finished)
- Click **Stack** (this may take a while)

The final part of this stage is trial and error using a few sliders to bring out the star trails effect. Click into the **Wavelet** tab and drag the sliders to the right. Also, on the right of the screen there are sliders for brightness and contrast which will help too.

The area that will change is only a small region but once you are happy that the star trails effect is suitably bright in one area you can click '**Do All**' and the changes will be made to the whole picture. Finally click '**save**' to save your very own star trails image!



(Note: Mac users can use the programme Lynkeos in a very similar way for stage 2)