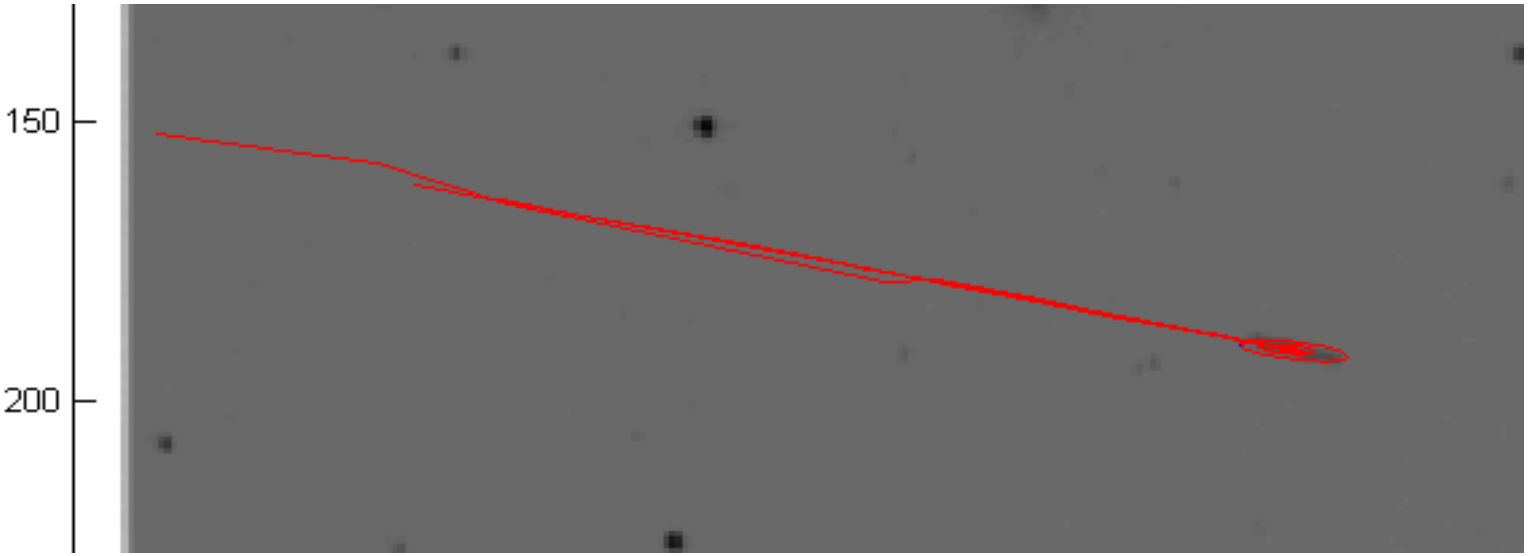
UDRC Themed Meeting on Space and Tracking

Space Tracking Data Challenge

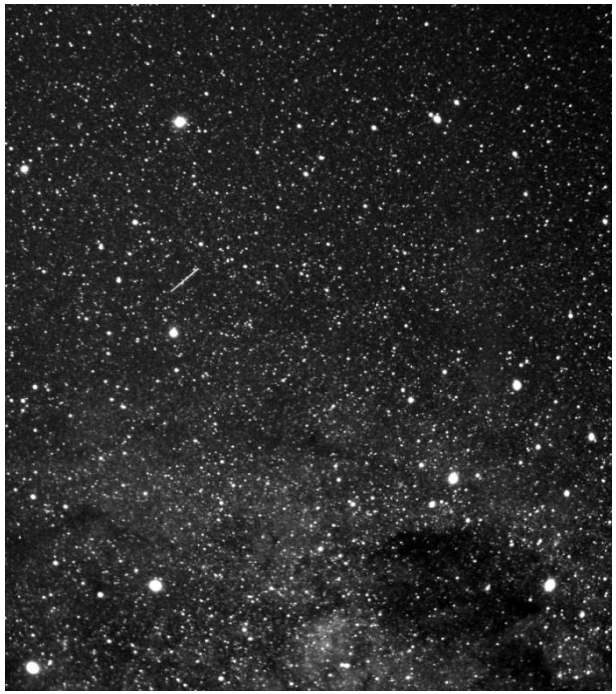
November 23, 2016

Here’s what we’d like you to do

- Produce tracks of orbiting objects from EO imagery



Here’s an example of the data



Here's what we'll give you

- Development data
  - Image sequences (~2-3 minutes at 15-20 images-per-minute)
  - May be multiple targets per sequence
  - Always at least one target per image sequence
  - Target SNR will vary across sequence
  - 5 sequences. Some targets easy, most harder
  - No ground truth, but via astrometric calibration and catalogues, you could find out what's there

Here's what you give us

- Code* allowing us to produce tracks from held-in data set of same format as development data.
- Code must produce plain text file of labelled tracks in pixel coordinates.

- *Matlab, IDL, Python (no ~~odd~~ library dependencies please).
- No executables
- Other options, please check.

Here’s what we want, and don’t want

- Wanted: Tracking algorithms
- Not wanted: significant effort spent on detection algorithms
- Not wanted: catalogue checking

Here's how we'll judge entries

- On held in data set
- Accuracy track metric
  - Smallest cumulative sum of offsets between object and theorised position.
    - Bonus points for novelty
- And of course, a prize

Next

- Questions?

- Syndicate sessions
  - ½ hour in groups to brainstorm ideas
  - return and brief back