



Joint Meeting University of Warwick July 2018



# Pushing the Limits using Commercial Spectrographs

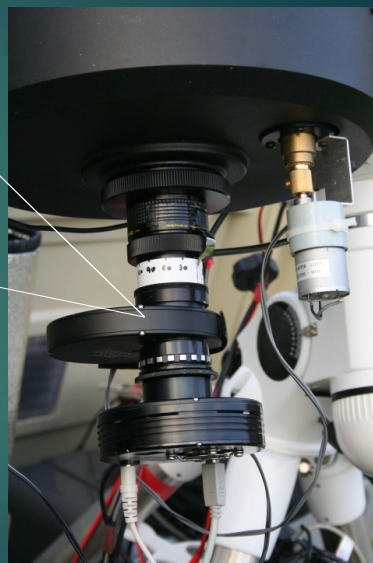
Robin Leadbeater  
[robin@threehillsobservatory.co.uk](mailto:robin@threehillsobservatory.co.uk)

## High Cadence Spectrophotometry Using a Star Analyser Grating

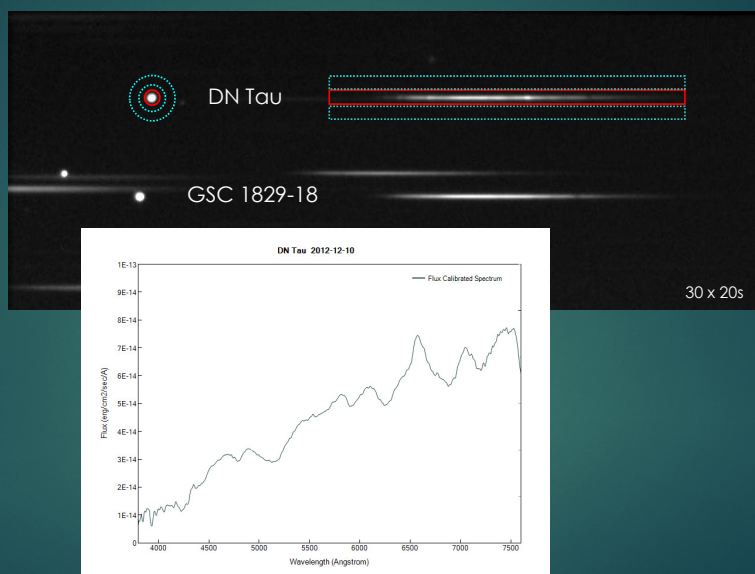
## Non objective grating spectrograph



100 l/mm grating placed in the converging beam between telescope and camera sensor producing a low  $\sim 50\text{\AA}$  resolution spectrum



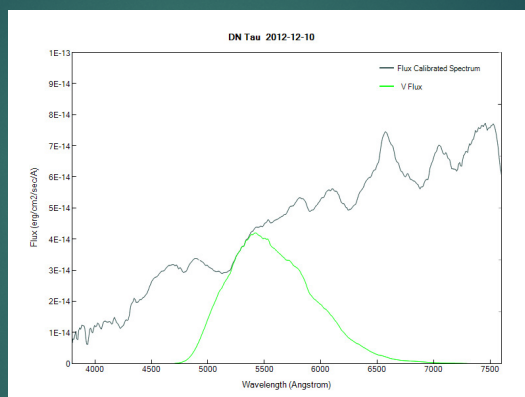
## Differential Spectrophotometry



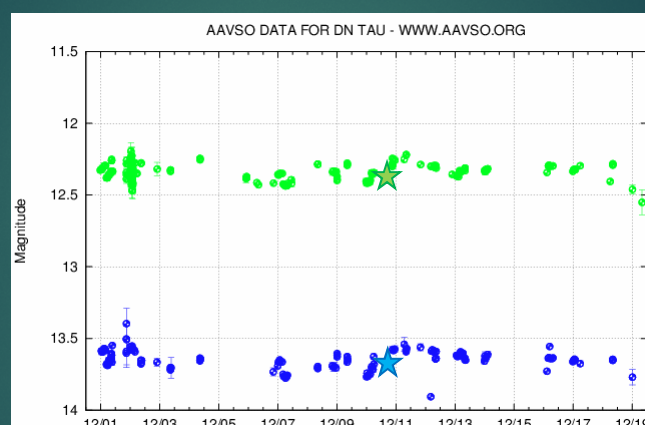
## Extracting Photometric Magnitudes

V mag 12.36

B mag 13.71

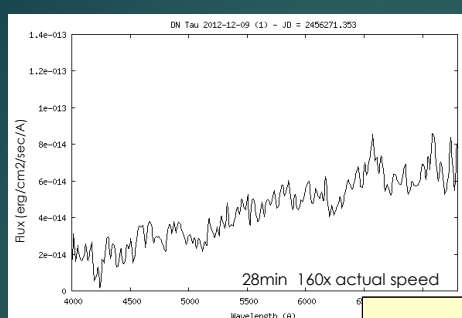
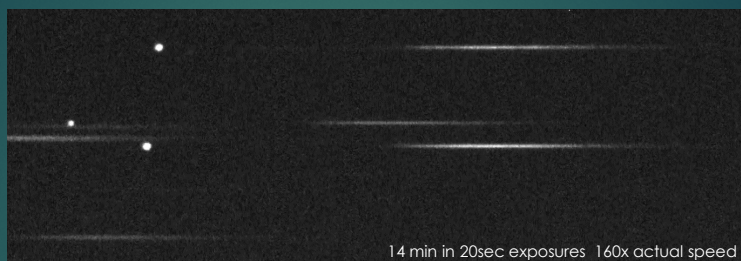


## AAVSO light curve

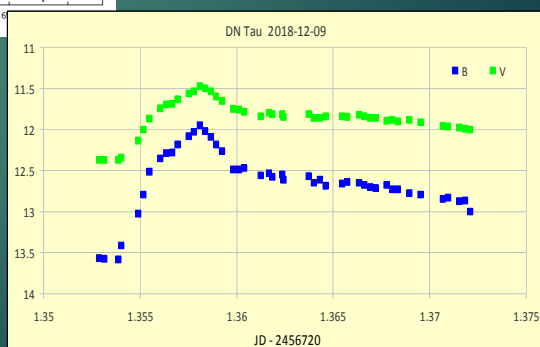




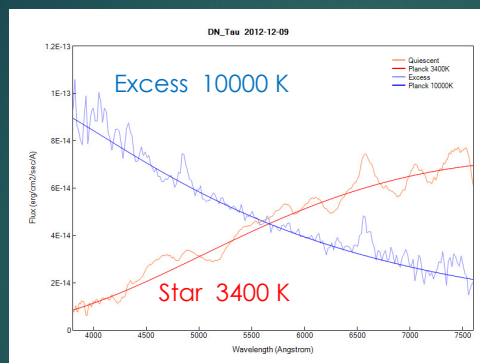
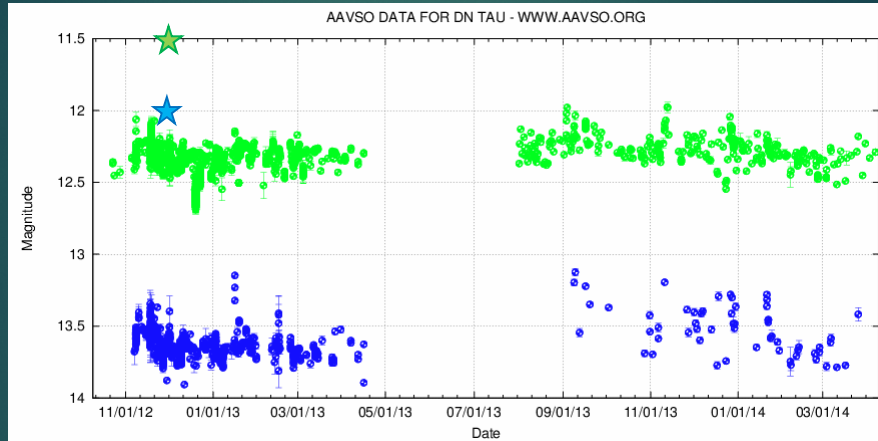
## 2012-12-09 A Fast Transient



B mag  
13.6 – 11.9 in 6 minutes



## AAVSO light curve



Excess Flux

“Back of envelope”  
Astrophysics

