

BAA Observers' Workshop

Comets and Meteors

- Outburst comets

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A
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Project



Contents

- What is an outburst comet ?
- Which ones to monitor ?
- Which ones can be imaged ?
- Imaging using SSON network
- Image Processing and reporting

What is an outburst comet ?

A periodic outbursting comet of the non-fragmenting type
Theory - All are slow rotators and the cometary ices
beneath the crust start melting and subsequently outgas

Richard Miles' presentations

The European Comet Conference on 2015 June 6

<https://drive.google.com/file/d/0B8OVnW0WLB3EdVNDQmV4V3M3dHc/view?pli=1>

BAA Ordinary Meeting 2013 Dec 14 (BAA members only)

<https://britastro.org/video/99/3654>

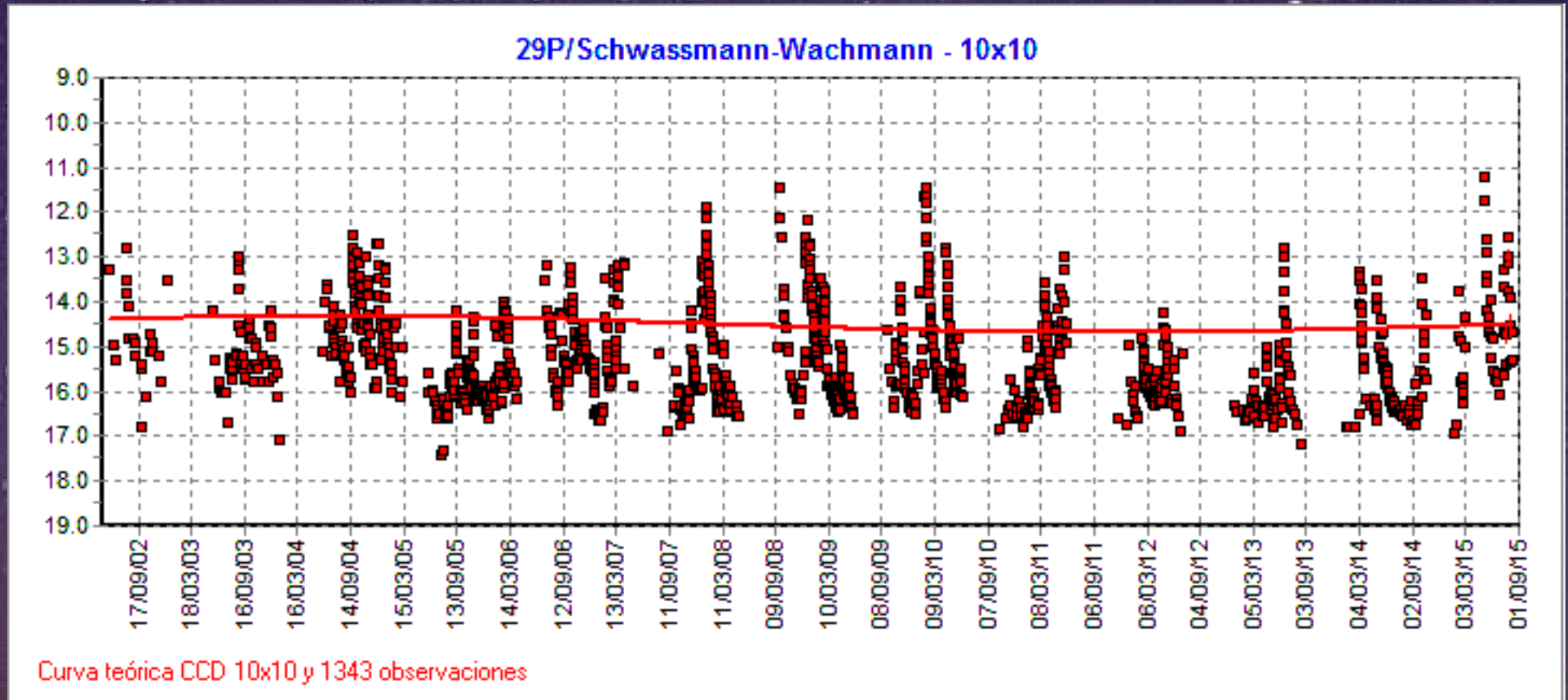
BAA Ordinary Meeting 2014 January 29 (BAA members only)

<https://britastro.org/video/5367>

Richard Miles and George A. Faillace

On Liquid phases in cometary nuclei. *Icarus* –Vol.219, Issue 2, June 2012

What is an outburst comet ?



Which ones to monitor ?

- 1P/Halley
- 12P/Pons-Brooke
- 15P/Finlay
- 17P/Holmes
- **29P/Schwassmann-Wachmann**
- 41P/Tuttle-Giacobini-Kresak
- 52P/Harrington-Abell
- 63P/Wild
- 97P/Metcalf-Brewington
- **174P/Echeclus**
- 255P/Levy
- 273P/Pons-Gambart
- 289P/Blanpain
- P/2010 H2 (Vales)
- P/2010 V1 (Ikeya-Mirakami)
- **C/2013 C2 (Tenegra)**

Which ones can be imaged ?

- SSON and Warrumbungle telescopes give access to both hemispheres
- Plot positions using Megastar
- Check position of Moon ($>30^\circ$ separation)
- Determine exposure time (1) $<$ (2)
 - (1) Good SNR but not over exposed
 - (2) Avoid trailing

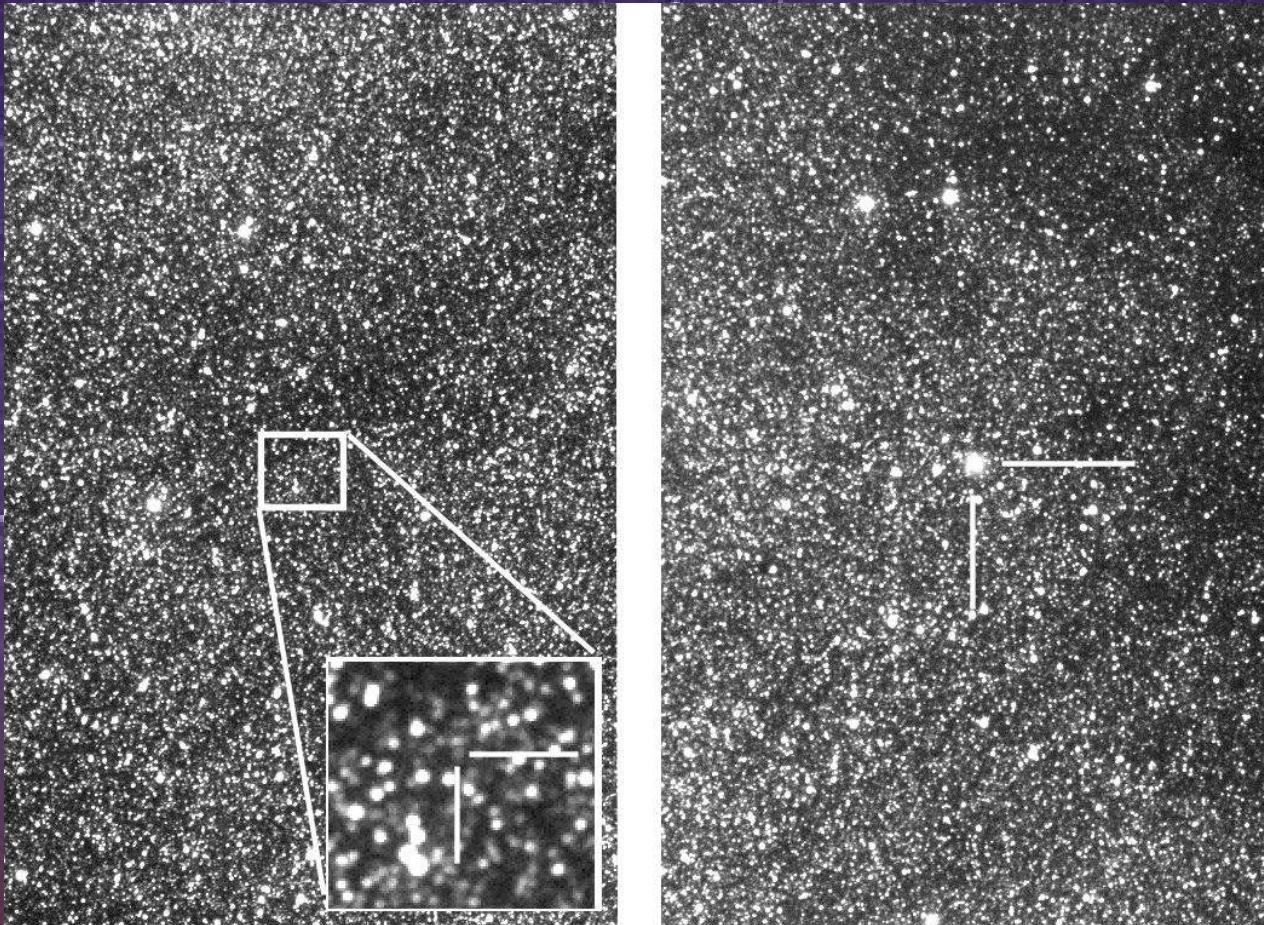
Using the SSON robotic telescope

<http://www.britastro.org/projectalcock/Using%20the%20SSON%20robotic%20telescope.htm>

Imaging using the SSON Robotic Telescope

- BAA Robotic Telescope Project
- SSON set-up
 - Login
 - Schedule a job
 - Choose object
 - Input title and observer name
 - Select telescope, filter, duration, no. of exposures (5), delay between each (15 mins)
 - Confirmation email

29P - now you see it, now you don't



Comet 29P/Schwassmann-Wachmann, 2015 Apr 29, 1350UT (L),
May 14, 1131UT (R) 28x18 arc mins, 90s exp, Warrumbungle
Planewave 0.51m f/6.8CCD, unfiltered, R. Dymock, MPC Q65

Image processing and reporting

- 'Front end' of CCD Astrometry and Photometry process
- Astrometrica
 - Use UCAC4 and then CMC-14 or 15
 - Red Colour band
 - Aperture radius \equiv 5.5 arc secs
 - Stack or not to stack ?
 - Send results to Richard Miles
- Follow through rest of procedure – PLEASE !!!

<http://www.britastro.org/projectalcock/CCD%20Astrometry%20and%20Photometry.htm>

Conclusion

- Some of what I have said here may change as and when software developed by Nick James replaces the current CCD Astrometry and Photometry procedure
- Please contact Richard Miles if you are interested as he is investigating different methods of measuring outbursts (miles 'at' baa.u-net.com)
- Please contact me if you have any problems, ideas wrt comet observing , imaging
(roger.dymock 'at' ntlworld.com)
- I will put this presentation on the Project Alcock website

The End

