RIO predictions
to
Occult4
to
Occult Watcher

Presented to TTSO8
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Slide 1)   **Title Screen**
- No description

Slide 2)   **The predictions of the RIO Group**
- Left image shows the principal leaders of The RIO Group.
- Right image is a collage of the web-page maintained by Felipe Braga Ribas
  - Shows a typical prediction and Update
  - Lists the papers that are the basis of the predictions.
  - http://devel2.linea.gov.br/~braga.ribas/campaigns/

Slide 3)   **Occult4 access to the RIO predictions**
- The desire was to get the RIO predictions into a format that Occult Watcher could read, propagate automatically to the observers, and allow other useful Occult Watcher functionality to operate like; Observer site announcements and Google Maps functionality.
- Up to November 2014, Hristo Pavlov converted the RIO prediction data, through a long and difficult process into a format that Occult Watcher could use, however event updates were next to impossible to do.
- Occult4 author Dave Herald developed functionality to download, convert and process the RIO data and to utilise data contained within installed star catalogues.
  - NOMAD, PPMXL, UCAC2, 3, &4
- The download and process to create the file TNO-RIO.dat takes about 15 seconds.
- To process from the TNO-RIO.dat file to the upload of the Occult Watcher-feed takes another 10 minutes.
  - Therefore regular updates are easy and not time consuming.
- The process however is dependent on the RIO data being made available by the RIO Group.

Slide 4)   **Occult4 and Occult Watcher**
- Left image shows the Occult Prediction page that is so familiar to regular observers.
  - Shown is the 2014 March 1 Orcus/Vanth events
- Right image shows the Occult Watcher+Google Maps depiction of announced sites for the same event.

Slide 5)   Why observe RIO events?

- Most TNO and Centaur objects have **not** been observed during stellar occultation.
- Those that have been observed during stellar occultation reveal startling discoveries. This 10199 Chariklo observation and discovery of a double ring system is a case in point.
  - Shown is the Author list and abstract of the Paper that descripes the observation and analysis.

Slide 6)   RIO Predictions in Occult4 and Occult Watcher

- Occult can now present predictions that highlight double star and asteroid events, as well as ringed asteroid events.
- To ensure your installation of Occult Watcher can access the RIO-TNO feed, ensure that;
  - Configuration>Prediction feeds>RIO-TNO Events (Global) - is ticked.
  - Configuration>Event filters?RIO-TNO Events filters are set appropriately
  - Occult Watcher will automatically download and display any events suitable for your site.
- ***Remember:*** concerning events involving TNOs and Centaurs, if you are on the hemisphere facing the target star at event time, and the weather is clear, then you are encouraged to observe. You could be a part of a startling discovery.

Slide 7)   Many thanks to;

- Felipe Braga Ribas and The RIO Group
- Dave Herald, author of Occult4
- Hristo Pavlov, author of Occult Watcher
- Questions?