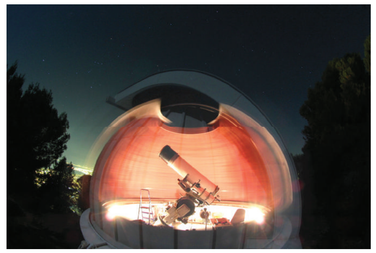
Le télescope Schaumasse de l'Observatoire de Nice

Matthieu Conjat - Collaborations Amateurs Professionnels - Journées de la SF2A - Nice 17 mai 2019

http://mconjat.free.fr - mconjat@free.fr

L'Observatoire de Nice



La coupole Schaumasse

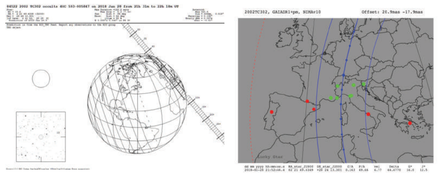
La crête de l'Observatoire

Télescope	
Type	Cassegrain
Diamètre	400mm
Focale	6m (foyer primaire 2m)
Monture	Fourche 4 axes
Coordonnées	07° 17' 58.5" E 43° 43' 32.8" N
Caméras	
Type	QSI 583ws, Audine kaf401e & ASI 174mm

Occultations d'étoiles

Collaboration avec le réseau Euraster

Occultation de 4UC 593-005847 par le transneptunien 84555 2002 TC302 - 28 janvier 2018



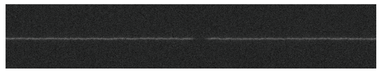
- Diamètre nord-sud proche de 520 km
- Diamètre est-ouest inférieur à 530 km
- Diamètre moyen entre 505 et 690 km (données Herschell)

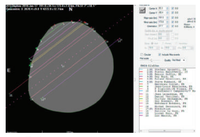
> Objet sphérique (glacé ?)

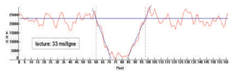
Vesta
560 x 460 km

Encelade
513 x 497 km

Occultation de TYC 0075-00715-1 par 41 Daphne – 17 janvier 2016



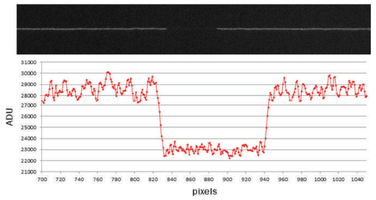




- Eclipse rasante

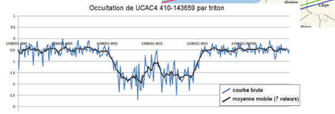
> diamètre de l'étoile: 220 microarcsecondes (0.00022")

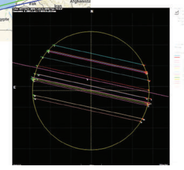
Occultation de TYC 1994-00082-1 par 164 Eva – 11 avril 2016



Durée de l'éclipse 2.302" (taille de l'astéroïde supérieure à 40km)

Occultation de UCAC4 410_143659 par Triton - 5 octobre 2017



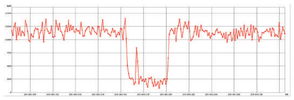


- Durée de l'occultation: 160.9"

> diamètre 2760km. (diamètre officiel: 2707km)

- Confirmation de la présence de l'atmosphère de Triton (pic central)

Occultation de 4UC518-025559 par 239 Adrastea - 2 janvier 2019



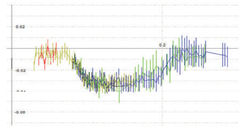
- Pic de luminosité au début de l'éclipse

> Occultation rasante ou binaire en contact ?

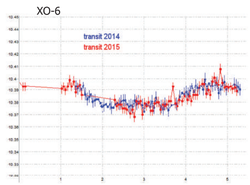
- *Profils possibles de l'astéroïde*

Transits d'exoplanètes

Participation au programme de détection d'exoplanètes XO



XO-1 - Profondeur 0.03 mag



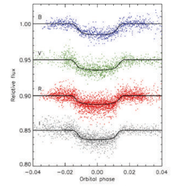
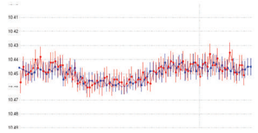
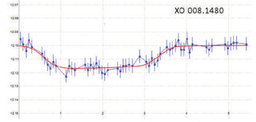


Figure extraite de l'article du Astronomical Journal

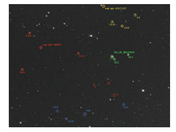
Discovery of XO-6b: a hot Jupiter transiting a fast rotating F5 star on an oblique orbit
Crouzet et al., The Astronomical Journal, vol. 153, March 2017



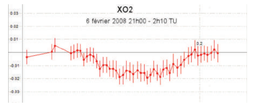
XO-7 - Profondeur 0.012 mag



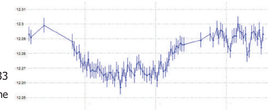
XO 008.1480 – candidat exoplanète



XO-6b et 3 nouvelles étoiles variables découvertes dans le champ

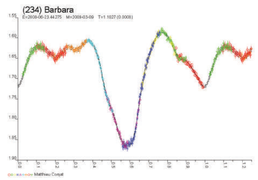


XO-2 – Profondeur 0.016 mag - Caméra Audine



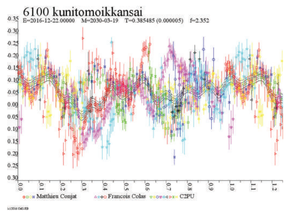
HD 189733
Caméra Audine

Courbes de lumière d'astéroïdes

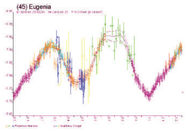


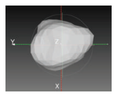
The non-convex shape of (234) Barbara, the first Barbarian.
P.Tanga *et.al., Monthly Notices* of the *Royal* Astronomical Society, Volume 448, Issue 4, 21 April 2015

Découverte d'un astéroïde double: 6100 Kunitomoikkansai

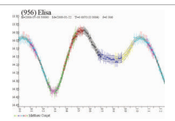


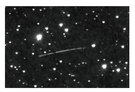
> Observations complémentaires avec le T1m du Pic du Midi et le télescope Omicron du C2PU (Observatoire de la Côte d'Azur) -
CBET 4566 - Central Bureau for Astronomical Telegrams





Mesure de la phase d'Eugenia en vue d'une observation avec le télescope Hubble.
- collaboration avec l'IMCCE (Observatoire de Paris)

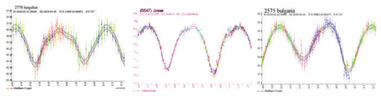




Collaboration avec l'Université de Hawaii pour la préparation d'une observation avec le télescope spatial Spitzer

Mineralogy and thermal properties of V-type Asteroid 956 Elisa: Evidence for diogenitic material from the Spitzer IRS (5-35 μm) Spectrum- Icarus 213(2):510-523 - June 2011

Caractérisation des membres d'une toute nouvelle famille d'astéroïdes

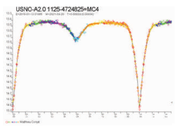


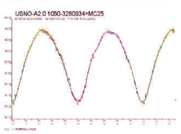
"Identification of a primordial asteroid family constrains the original planetesimal population" – Delbo et.al., Science August 2017

Découvertes d'étoiles variables

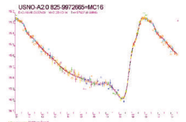
325 étoiles variables découvertes sous la coupole Schaumasse

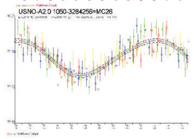
Binaires à éclipses

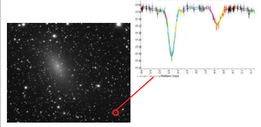




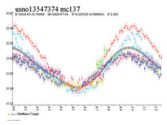
Pulsantes







Galaxie NGC147 et MC222

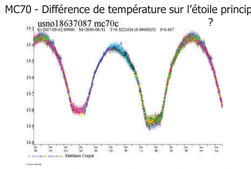


MC137 – Pulsante avec un effet Blazhko ?

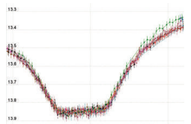
Mesures publiées dans le cadre du programme CdR-CdL (Raoul Behrend – Observatoire de Genève)

Cas particuliers

MC70 - Différence de température sur l'étoile principale, ou disque de matière excentré ?



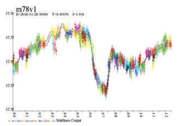
Les 2 maxima ont des éclats différents



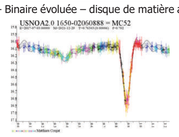
L'éclat de l'étoile principale augmente au cours de l'éclipse

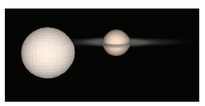
MC306b – Une pulsante dans un couple binaire ?

Nébuleuse M78 – Télescope Schaumasse



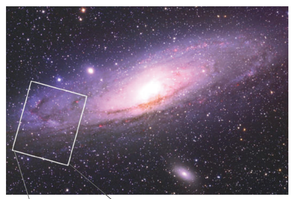
MC52 – Binaire évoluée – disque de matière autour de l'une des 2 étoiles ?



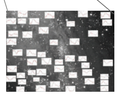


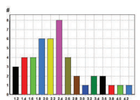
Céphéides extragalactiques

65 variables repérées autour de NGC206, dont ~50 céphéides



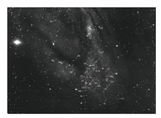
Galaxie d'Andromède – Télescope 200/800 – Observatoire de Nice



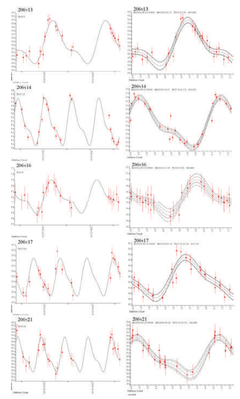


Histogramme des distances obtenues par la relation période-luminosité

Distance moyenne 2.35 millions d'a.l.



Plaque photo de Edwin Hubble *(A spiral nebula as a stellar system, Messier 31 – 1929 ApJ.69.103h)*



Courbe de luminosité de 5 céphéides de la galaxie d'Andromède (magnitudes moyennes 18.2 à 19.3)