

Les RR Lyrae de l'amas globulaire M3

M3 est l'un des amas globulaires les plus gros et les plus brillants de la Voie Lactée, et contient environ 500 000 étoiles, dont un nombre remarquablement élevé d'étoiles variables (275 officiellement recensées, par comparaison avec M13 qui n'en contient que 64), parmi lesquelles 170 RR Lyrae.

Les images ont été obtenues pendant une campagne de 48 jours, du 9 avril au 27 mai, sans filtre, avec des temps de pose individuels d'environ 110 secondes, au foyer primaire f/5 du télescope Schaumasse, et nous ont permis de recenser 208 étoiles variables, dont 199 RR Lyrae et 5 variables à longue période. Deux étoiles non répertoriées comme variables présentent des variations évidentes, l'une d'entre elle (m3v107) étant clairement une RRab de faible amplitude. L'une des RR Lyrae (m3v59) présente des variations rapides de type pulsante, mais sa courbe de lumière semble superposée à des variations de grande amplitude et de période 15 jours. Une dernière (m3v195) est officiellement de type Delta Scuti, mais sa période de 50 jours est incompatible avec les faibles périodes de ces pulsantes (quelques heures).



Figure 1- Position des 208 étoiles variables répertoriées pendant cette campagne

Sur l'histogramme des périodes mesurées (hors longues périodes), on remarque bien les 2 types principaux de RR Lyrae, le type RRab (périodes comprises entre 10 et 15 heures), et RRc (de 6 à 8 heures). Ces 2 types se distinguent également très facilement grâce à la forme de leur courbe de lumière. Les RRab ont une courbe assez dissymétrique, avec une remontée rapide de la luminosité, et les RRc ont une courbe plus symétrique, presque sinusoïdale.

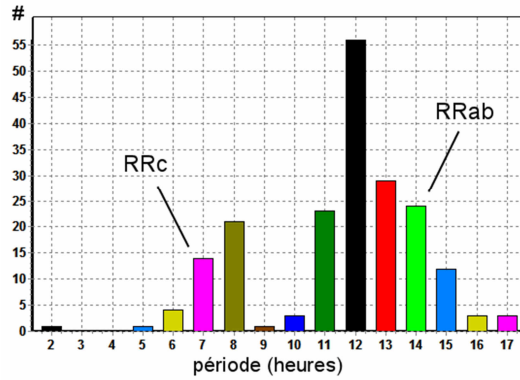


Figure 2- Distribution des périodes des RR Lyrae de M3

Nous avons mesuré 43 étoiles de période inférieure à 10 heures (ce sont généralement des étoiles RRC), et 154 étoiles de période supérieure à 10 heures (type RRab). Les courbes de lumières présentées dans ce rapport ont été obtenues à l'aide du programme Courbrot développé par Raoul Behrend¹.

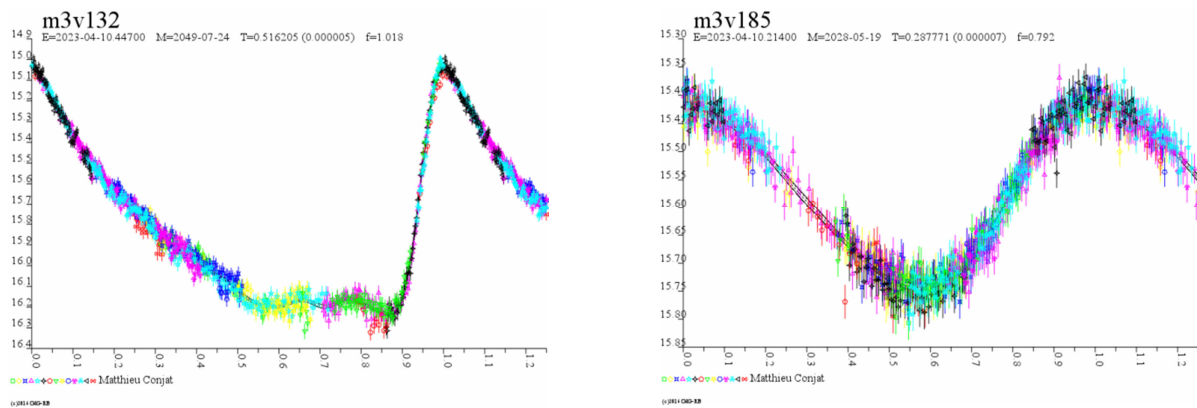


Figure 3- Exemples typiques de RR lyrae de type RRab (à gauche) et de type RRC (à droite)

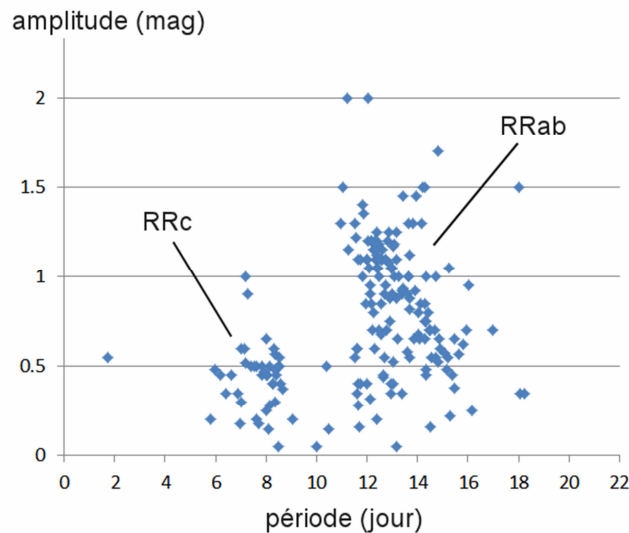


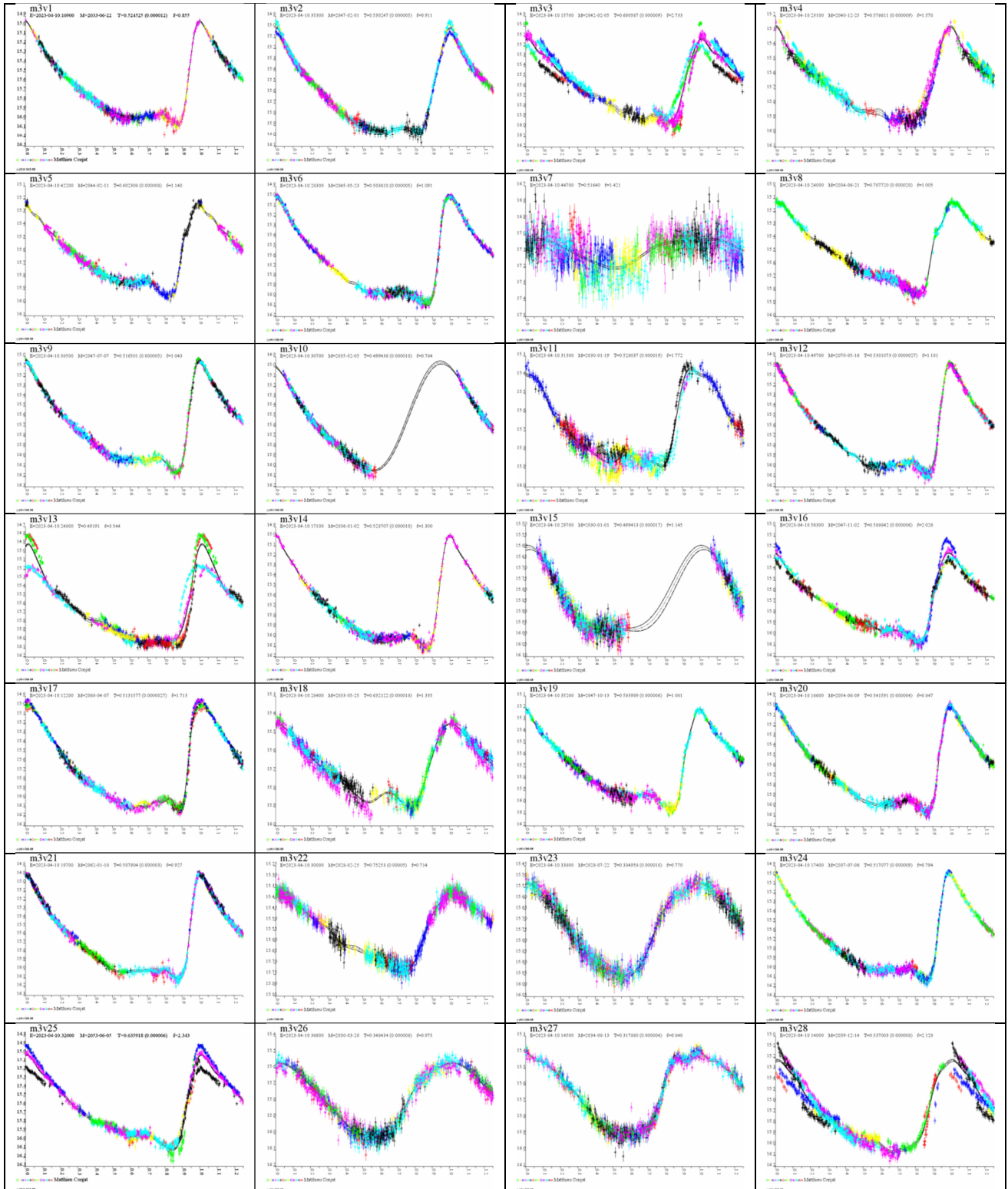
Figure 4- diagramme amplitude-période

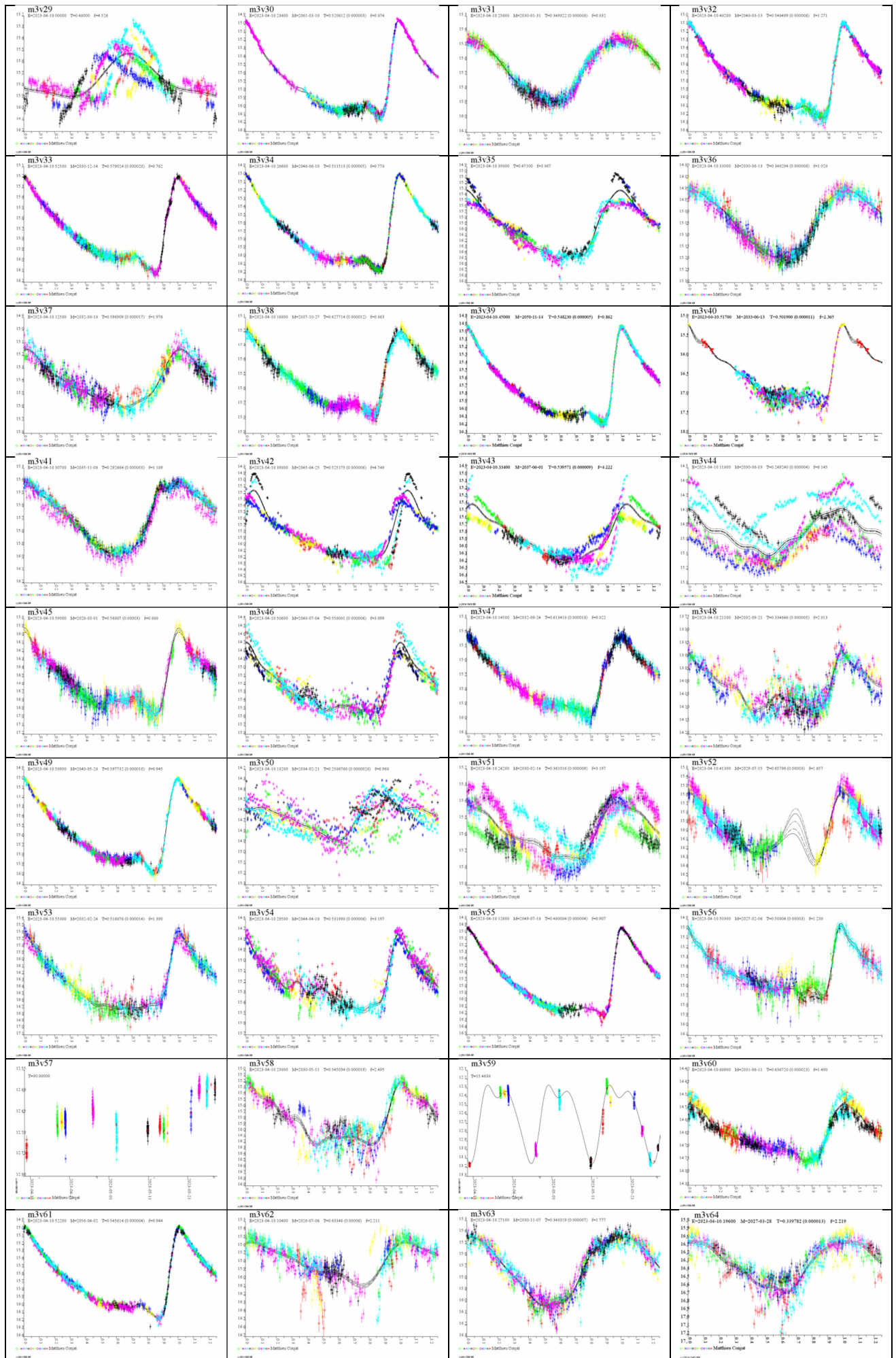
Le diagramme amplitude-période montre bien que les étoiles dont la période est plus importante ont également une amplitude plus grande.

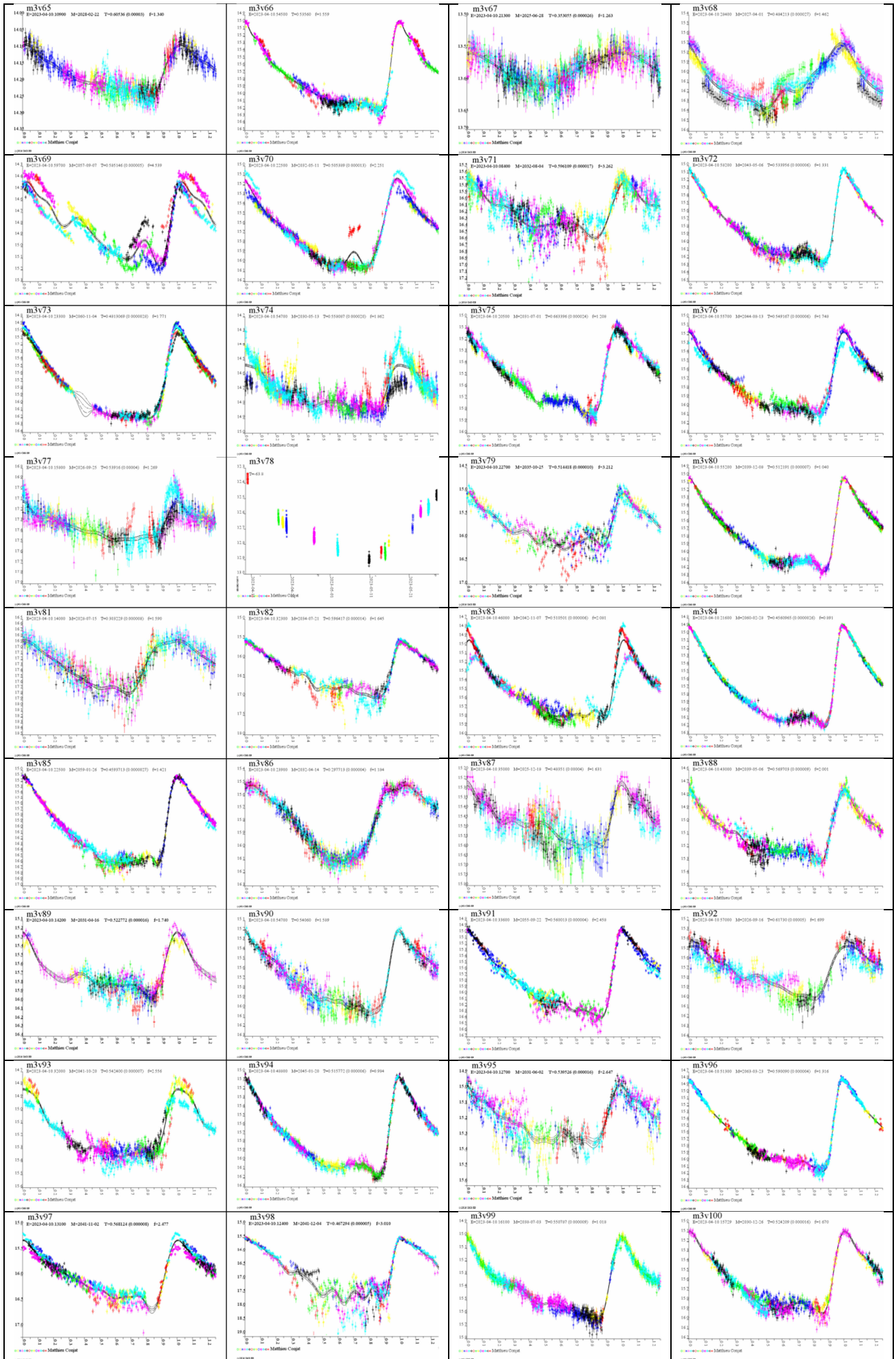
¹ <https://obswww.unige.ch/~behrend/redcouro/redcouro.html>

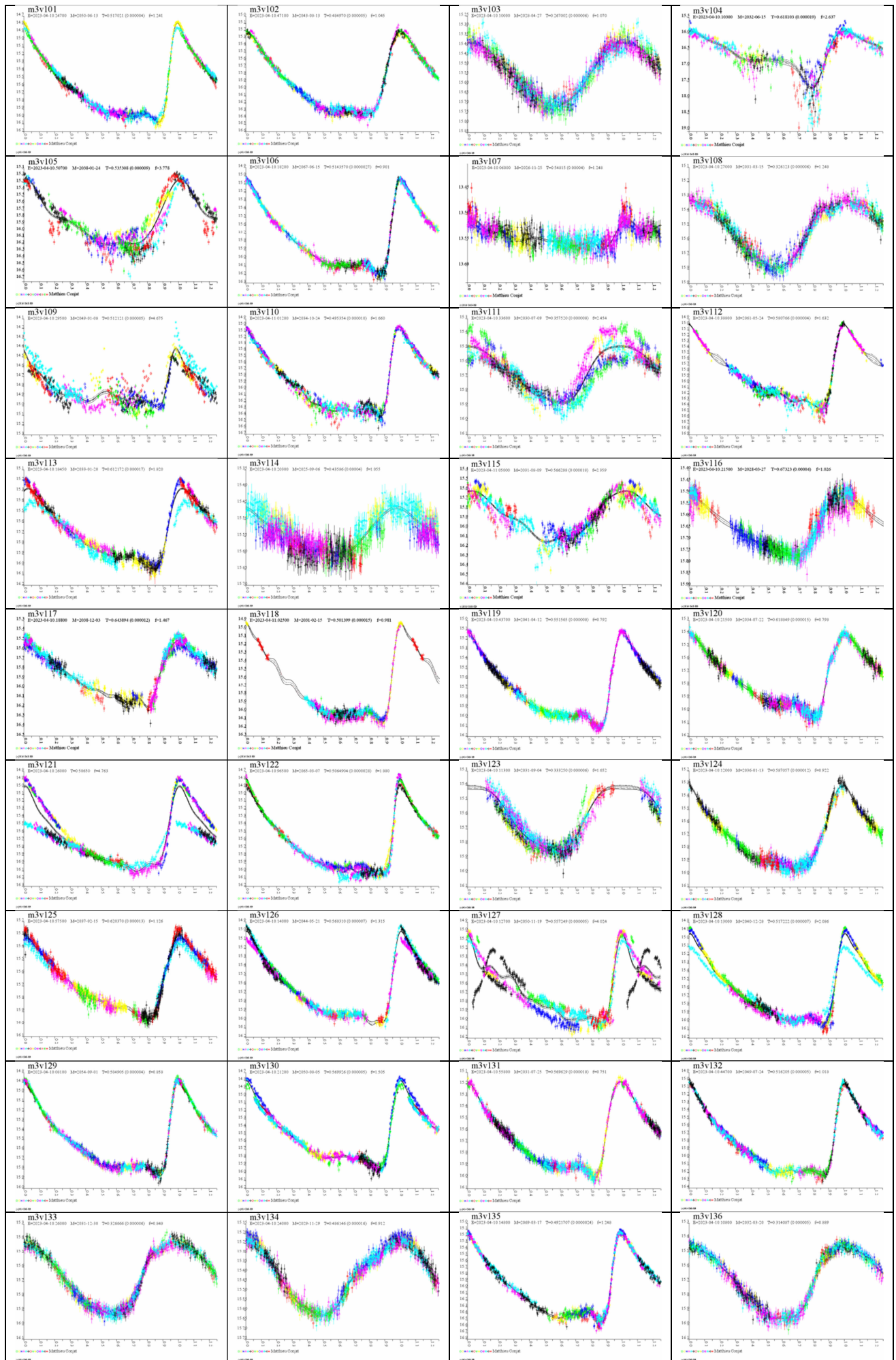
Table des courbes de lumière

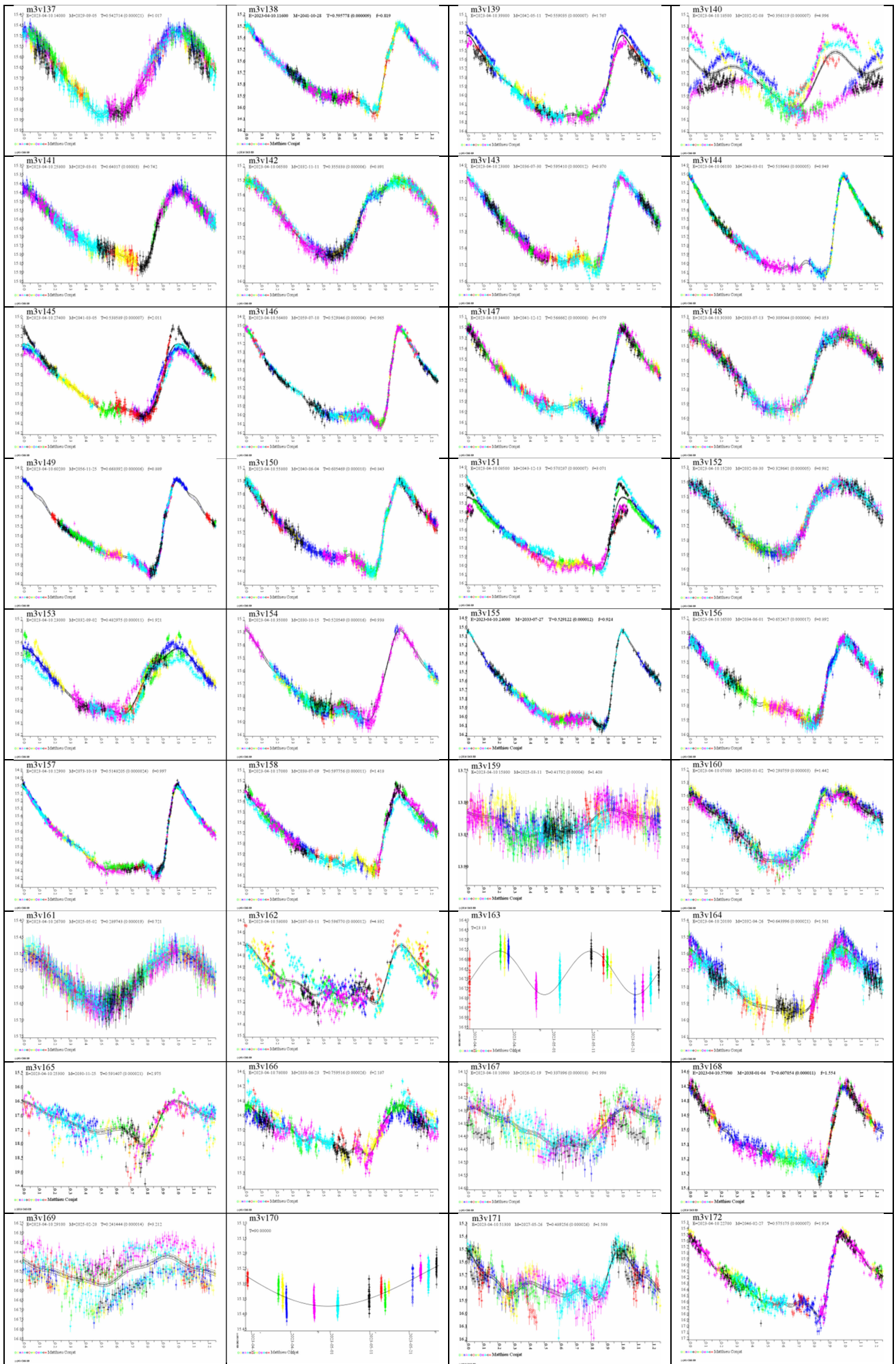
Les courbes suivantes ont été obtenues avec un filtre L. Les magnitudes indiquées sont différentes des magnitudes R, V et B obtenues par étalonnage avec les mesures Gaïa pour calculer le diagramme HR. La magnitude de chaque étoile est obtenue par photométrie différentielle, par comparaison avec 3 étoiles d'éclat constant.

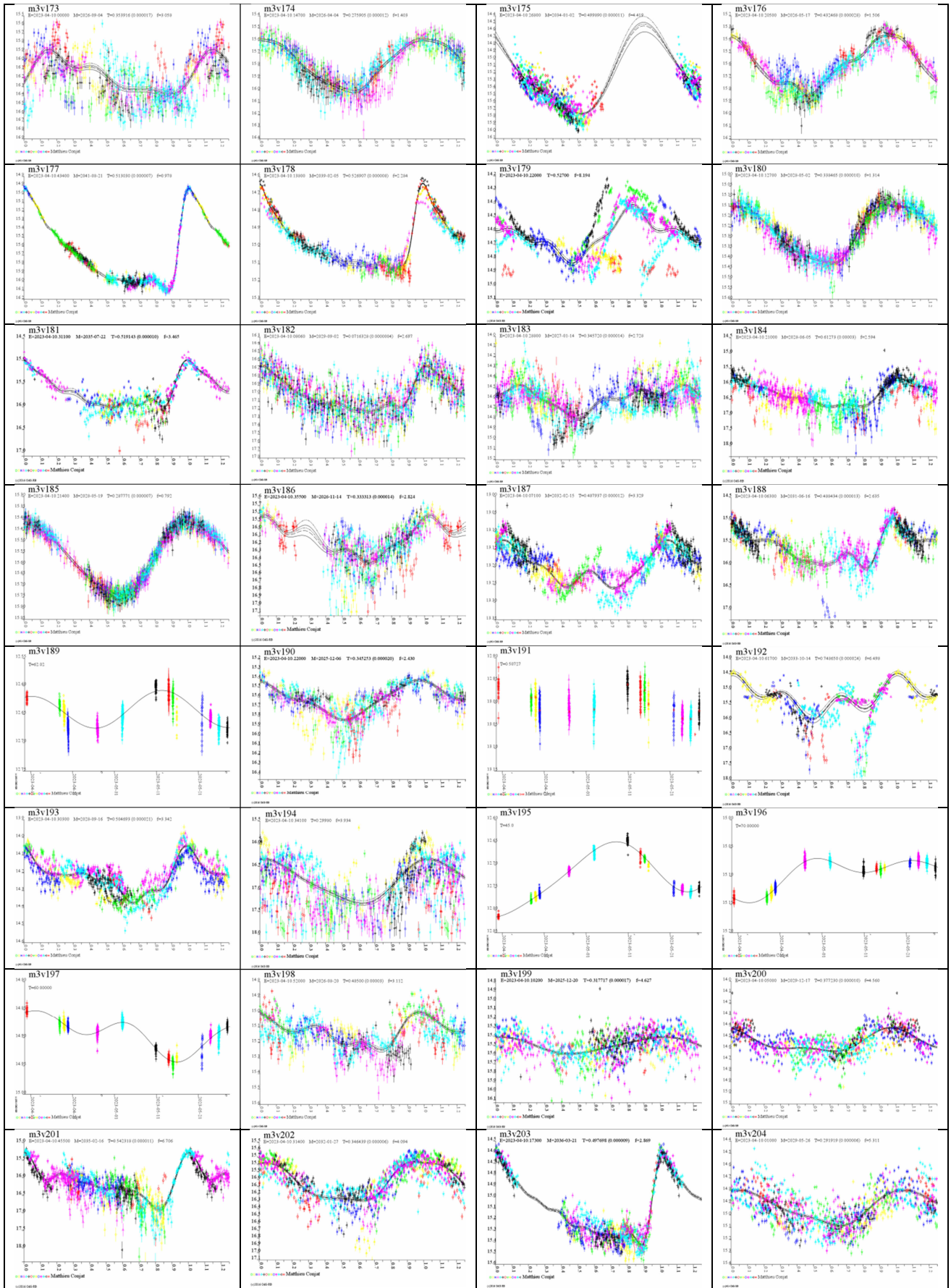


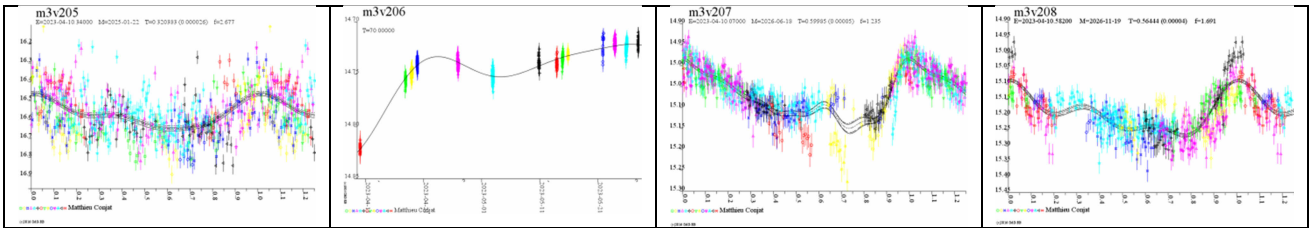










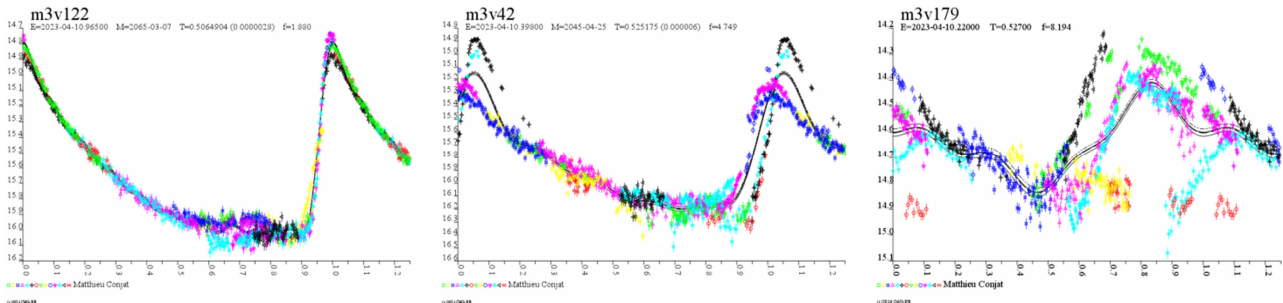


Sur les 194 RR Lyrae observées, environ une vingtaine présente une courbe de lumière ne permettant pas une distinction entre les types RRab et RRC. Il s'agit généralement d'étoiles peu lumineuses situées près du centre de l'amas, généralement à proximité immédiate d'une autre étoile, empêchant de réaliser des mesures photométriques de précision. Pour ces étoiles, la période la plus probable est indiquée, mais d'autres périodes sont également possibles. D'une manière générale, même si les mesures sont bruitées, ces étoiles ont cependant présenté des variations de luminosité manifestes durant la campagne de mesures.

Effet Blazhko

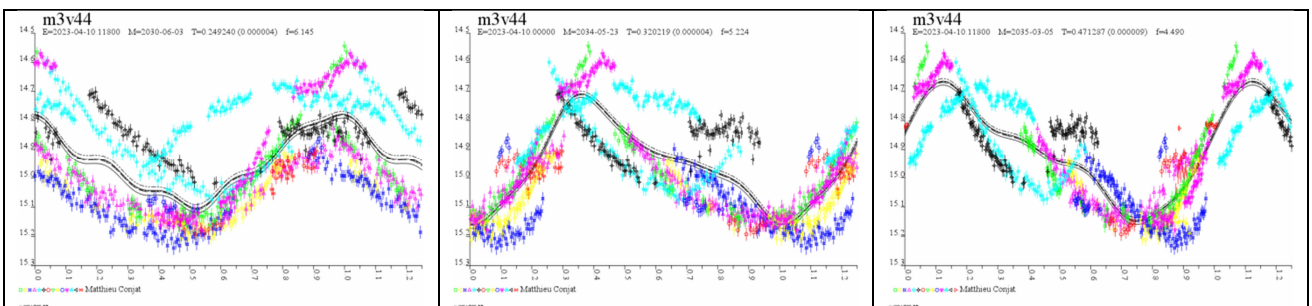
Sur les 172 RR Lyrae dont la période est mesurée sans aucune ambiguïté, environ 70 présentent un effet Blazhko plus ou moins prononcé, soit environ 40% d'entre elles. Ce phénomène est caractérisé par une variation périodique de la courbe de lumière qui affecte à la fois l'amplitude et la période de la variation de luminosité. Cet effet est parfois très faible, comme pour m3v122, mais parfois complètement chaotique, comme pour m3v179. Il touche d'avantage les RRab (45%) que les RRC (environ 15 %).

Pour environ 10% des étoiles observées, dont les mesures sont bruitées en raison de leur faible luminosité et de la proximité d'étoiles au centre de l'amas, la distinction de l'effet Blazhko est difficile à faire.



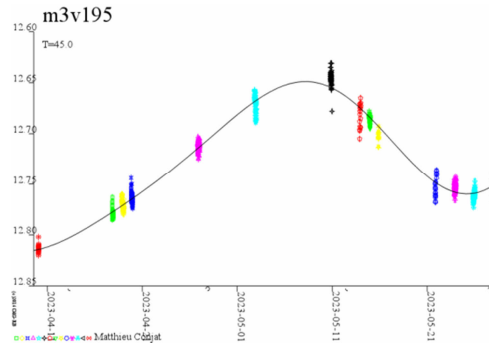
3 illustrations de l'effet Blazhko de différentes intensités.

Pour m3v44, plusieurs périodes sont possibles, 0.25, 0.32 ou 0.47 jours:



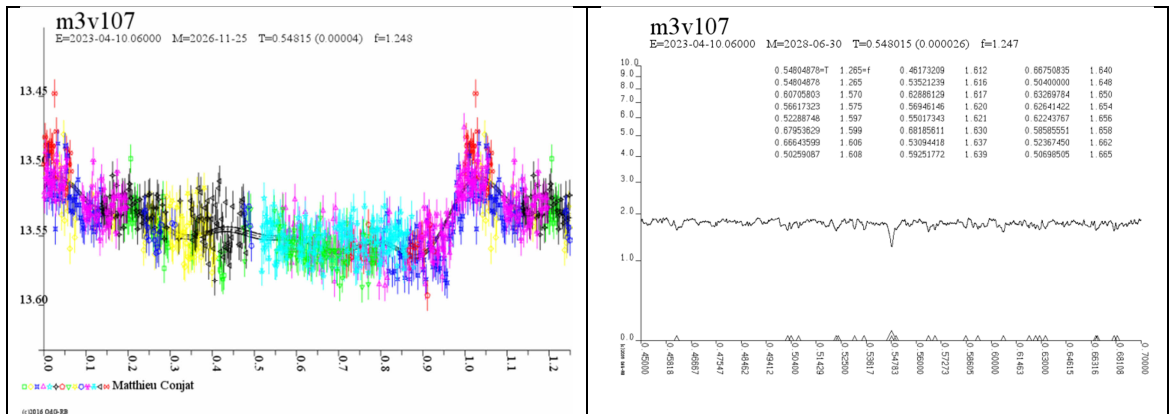
Cas particuliers

- M3v195 est classée comme variable de type δ Scuti, prototype d'étoiles pulsantes naines de période comprise entre quelques dizaines de minutes et quelques heures. Cependant, les variations observées, présentant une période d'environ 50 jours, sont incompatibles avec le type δ Scuti. Il s'agit vraisemblablement d'une géante rouge.



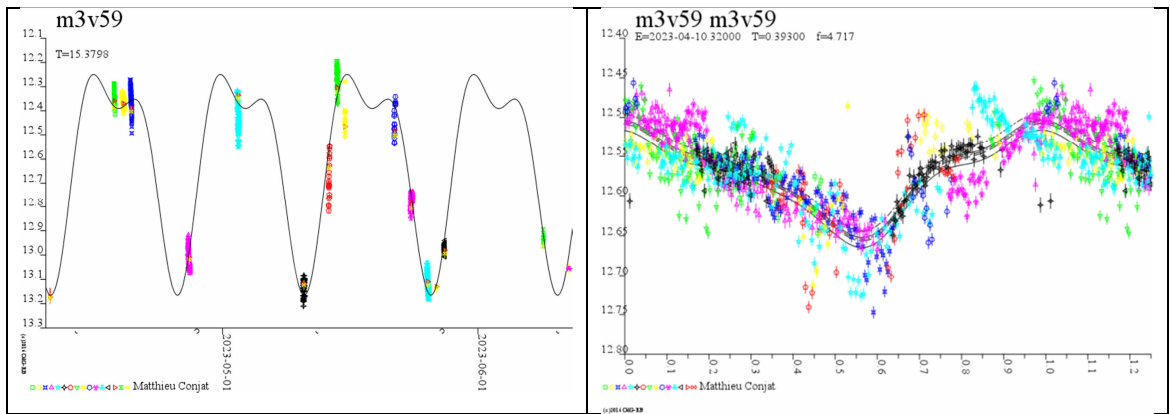
Variation de la courbe de lumière de m3v195 durant la campagne d'observation

- M3v107 est classée comme une étoile standard par Simbad. Nous avons pu cependant observer des variations de luminosité caractéristiques d'une pulsante de type R Rab, de période 13.15 heures et de faible amplitude (0.05 mag).



Courbe de lumière de m3v107

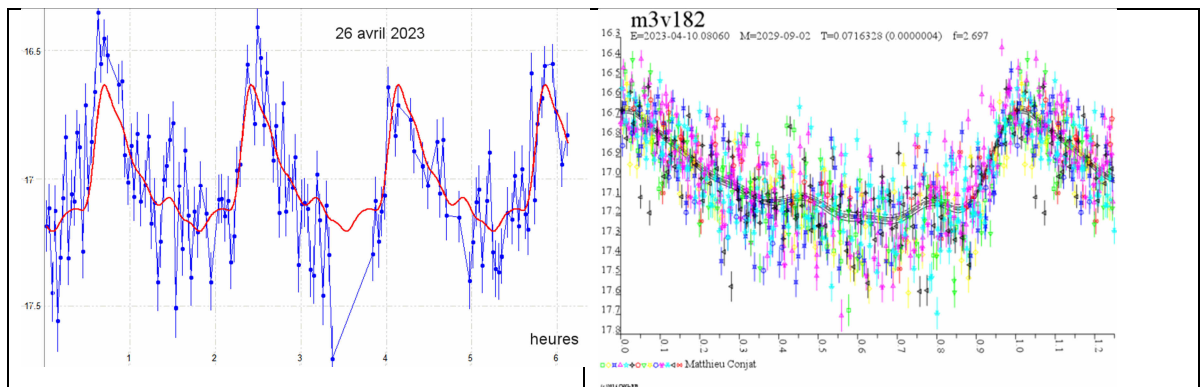
- M3v59 semble présenter des variations rapides de type RR Lyrae (d'une période proche de 0.393 jours), mais on observe une modulation d'environ 1 magnitude sur une période de 15 jours. Elle est répertoriée comme RR Lyrae sur Simbad.



Courbe de lumière de m3v59

La figure de gauche montre la courbe de lumière brute, avec le signal de période 15 jours. La figure de droite montre les résidus (signal à 15 jours soustrait des mesures brutes) regroupés sur une période de 0.393 jours.

- M3v182 est une pulsante de période 1.719 heures. Les figures ci-dessous montrent les mesures obtenues le 26 avril, ainsi que l'ensemble des mesures regroupées sur une période de 1.719 heures.



- M3v163 est classée comme RR Lyrae mais ne présente aucune variation horaire. On observe cependant des variations évidentes présentant une période d'environ 23 jours

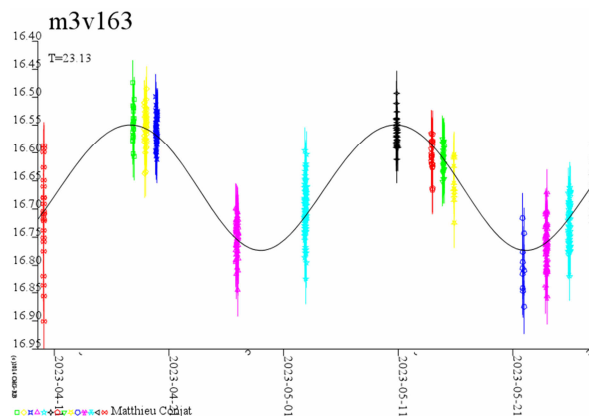


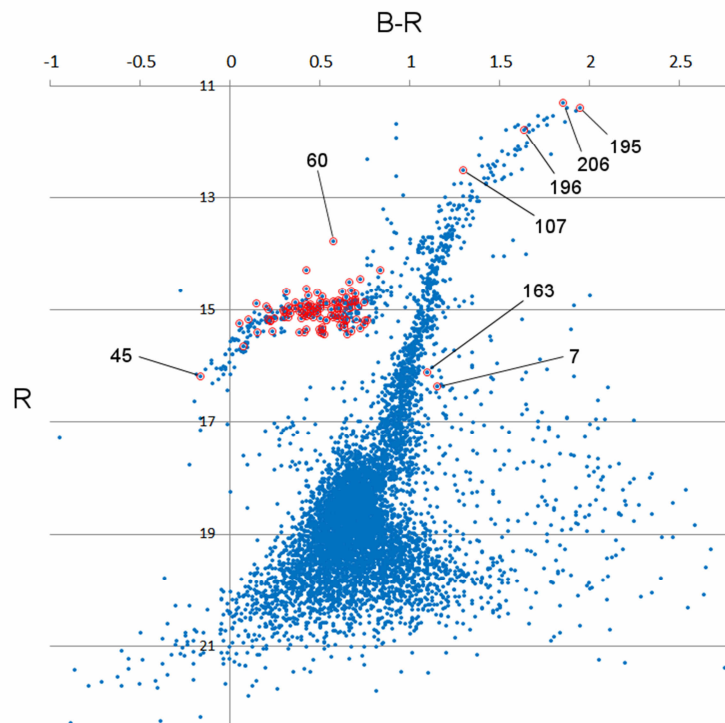
Diagramme Hertzsprung-Russell

Le diagramme HR a été obtenu à l'aide des images RVB réalisées en 2016 sur 3 nuits, ainsi que des images faites en mai 2023, sur 2 nuits. Les mesures photométriques ainsi obtenues sur ces 5 nuits permettent de moyenner la luminosité des RR Lyrae, ce qui permet de les faire apparaître au milieu de la branche horizontale, dans la zone d'instabilité

Les magnitudes R,V et B sont déterminées grâce aux mesures Gaïa.

Les temps de pose sont d'environ 100 minutes en R, 120 minutes en V, et 185 minutes en B, ce qui a permis de mesurer environ 6900 étoiles. Le programme utilisé pour les détecter automatiquement (Avis Fits viewer, un dérivé de Astroart) a du mal avec les zones denses au centre de l'amas, c'est pourquoi le nombre total d'étoiles observables est plus grand et certaines variables détectées lors de cette campagne n'apparaissent pas sur le diagramme HR.

Les cercles rouges sont les variables répertoriées pendant cette campagne. Seules 119 d'entre elles sont représentées ici.



Les chiffres noirs indiquent le numéro de quelques variables particulières.

v7 semble être une étoile normale, malgré des variations faibles mais nettes.

v163 est indiquée comme RR Lyrae sur Simbad, mais ce n'est clairement pas le cas ici, d'autant que sa période est d'environ 22 jours.

v107 est classée comme simple étoile, malgré les faibles variations de type RR Lyrae observées.

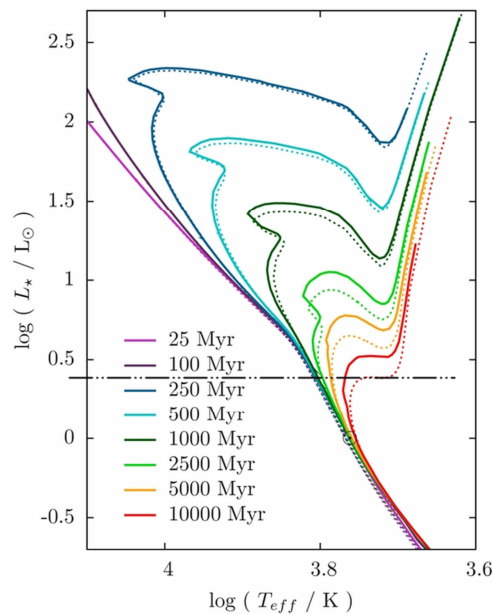
V196 et v206 sont des géantes rouges avec des variations de 0.07 mag.

v195 est l'étoile classée comme δ Scuti, qui est finalement bien une géante rouge d'après ce diagramme.

v45 et v60 sont des RR Lyrae classiques, qui s'éloignent un peu de la zone d'instabilité.

Autre indication de ce diagramme: la branche horizontale est de magnitude apparente 15 (filtre R). En utilisant les images en filtre V, on est plutôt vers 15.1. Il semble que la magnitude absolue généralement admise pour cette branche soit de l'ordre de 0. Cela donne un module de distance de 15.1, soit une distance de 10500 parsecs, soit **34200 a.l.** Officiellement, la distance officielle de M3 est **33300 a.l.** Il faudrait tenir compte du rougissement interstellaire pour affiner les mesures, mais M3 étant situé à une latitude galactique élevée (78.5°), celui-ci ne devrait pas être important.

Sur le diagramme, on voit bien le sommet de la séquence principale, dont les étoiles les plus faibles ne sont pas visibles. On devine le coude (turnoff) au sommet de la séquence principale, lié à l'âge des étoiles dont les plus lumineuses ont déjà quitté la séquence principale et évolué en géantes. Avec les images en filtre V, on arrive à une magnitude d'environ 18.8, soit un rapport $\log(L/L_{\odot})$ de ~ 0.4 . D'après les mesures d'isochrones de Jordi Casanellas², cela correspondrait à un âge compris entre ~ 7 et 10 milliards d'années:



L'âge officiel de M3 est de 11.4 milliards d'années.

² https://www.researchgate.net/figure/sochrones-for-a-cluster-of-stars-with-masses-between-07-M-and-35-M-that-evolved-in-a_fig1_51891502

Liste des variables

m3v..	α (13h ..)	δ (28° ..)	type	Nom	Lien Simbad
1	42 03.89	12 40.55	RRlyr	NGC 5272 391	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193879&Name=NGC%20%205272%20%20%20391&submit=submit
2	42 10.57	13 32.07	RRlyr	NGC 5272 713	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193821&Name=NGC%20%205272%20%20%20713&submit=submit
3	42 18.39	14 53.86	RRlyr	NGC 5272 1184	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192428&Name=NGC%20%205272%20%201184&submit=submit
4	42 22.41	15 22.64	RRlyr	NGC 5272 SAW V17	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194559&Name=CI*%20NGC%205272%20%20%2020SAW%20V17&submit=submit
5	41 47.40	16 04.26	RRlyr	NGC 5272 214	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193819&Name=NGC%20%205272%20%20%2020214&submit=submit
6	42 09.39	15 53.46	RRlyr	NGC 5272 623	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193829&Name=NGC%20%205272%20%20%2020623&submit=submit
7	41 51.55	17 00.72	star	NGC 5272 SAW V286	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194601&Name=CI*%20NGC%205272%20%20%2020SAW%20V286&submit=submit
8	41 49.05	17 25.55	RRlyr	NGC 5272 222	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187219&Name=NGC%20%205272%20%20%2020222&submit=submit
9	42 18.95	17 47.20	RRLyr	NGC 5272 1202	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187198&Name=NGC%20%205272%20%20%20201202&submit=submit
10	42 22.50	17 50.44	RRLyr	NGC 5272 1277	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192296&Name=NGC%20%205272%20%20%20201277&submit=submit
11	42 03.44	18 03.52	RRLyr	NGC 5272 384	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187207&Name=NGC%20%205272%20%20%2020384&submit=submit
12	42 04.67	18 08.51	RRLyr	NGC 5272 411	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192160&Name=NGC%20%205272%20%20%2020411&submit=submit
13	42 36.82	18 11.72	RRLyr	NGC 5272 1380	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193831&Name=NGC%20%205272%20%20%20201380&submit=submit
14	41 34.54	18 55.27	RRLyr	NGC 5272 173	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192090&Name=NGC%20%205272%20%20%2020173&submit=submit
15	41 59.12	18 47.47	RRLyr	NGC 5272 305	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187225&Name=NGC%20%205272%20%20%2020305&submit=submit
16	42 03.24	18 53.21	RRLyr	NGC 5272 378	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187316&Name=NGC%20%205272%20%20%2020378&submit=submit
17	42 12.24	18 47.91	RRLyr	NGC 5272 840	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187215&Name=NGC%20%205272%20%20%2020840&submit=submit
18	42 38.12	18 37.69	RRLyr	NGC 5272 1388	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187199&Name=NGC%20%205272%20%20%20201388&submit=submit
19	42 13.87	18 55.94	RRLyr	NGC 5272 965	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187216&Name=NGC%20%205272%20%20%2020965&submit=submit
20	41 49.50	19 13.37	RRLyr	NGC 5272 226	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187192&Name=NGC%20%205272%20%20%2020226&submit=submit
21	41 59.99	19 11.84	RRLyr	NGC 5272 321	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187193&Name=NGC%20%205272%20%20%2020321&submit=submit
22	42 06.52	19 20.66	RRLyr	NGC 5272 479	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187230&Name=NGC%20%205272%20%20%2020479&submit=submit
23	42 01.70	19 24.68	RRLyr	NGC 5272 353	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192144&Name=NGC%20%205272%20%20%2020353&submit=submit
24	42 18.92	19 34.11	RRLyr	NGC 5272 1201	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187224&Name=NGC%20%205272%20%20%20201201&submit=submit
25	42 07.81	20 01.12	RRLyr	NGC 5272 537	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187196&Name=NGC%20%205272%20%20%2020537&submit=submit
26	42 10.36	20 15.72	RRLyr	NGC 5272 700	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192208&Name=NGC%20%205272%20%20%2020700&submit=submit
27	42 11.26	20 17.06	RRLyr	NGC 5272 776	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187194&Name=NGC%20%205272%20%20%2020776&submit=submit
28	41 53.23	20 31.23	RRLyr	NGC 5272 252	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187212&Name=NGC%20%205272%20%20%2020252&submit=submit
29	42 09.59	20 24.46	RRLyr	NGC 5272 644	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187195&Name=NGC%20%205272%20%20%2020644&submit=submit
30	42 11.12	20 33.66	RRLyr	NGC 5272 765	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192339&Name=NGC%20%205272%20%20%2020765&submit=submit
31	42 25.65	20 30.06	RRLyr	NGC 5272 1317	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192309&Name=NGC%20%205272%20%20%20201317&submit=submit
32	42 13.62	20 51.50	RRLyr	NGC 5272 948	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187223&Name=NGC%20%205272%20%20%2020948&submit=submit
33	42 03.17	20 59.05	RRLyr	NGC 5272 379	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187202&Name=NGC%20%205272%20%20%2020379&submit=submit
34	41 48.71	21 08.10	RRLyr	NGC 5272 221	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187197&Name=NGC%20%205272%20%20%2020221&submit=submit
35	42 09.63	20 56.36	RRLyr	NGC 5272 656	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187203&Name=NGC%20%205272%20%20%2020656&submit=submit
36	42 06.35	21 02.63	RRLyr	SV* SVS 1362	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187287&Name=SV*%20SVS%20%20201362&submit=submit
37	42 15.60	21 02.77	RRLyr	NGC 5272 1076	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187241&Name=NGC%20%205272%20%20%20201076&submit=submit
38	42 21.16	21 00.24	RRLyr	NGC 5272 1253	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187315&Name=NGC%20%205272%20%20%20201253&submit=submit
39	42 22.11	21 02.60	RRLyr	NGC 5272 1268	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187214&Name=NGC%20%205272%20%20%20201268&submit=submit
40	42 10.42	21 13.93	RRLyr	NGC 5272 710	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187220&Name=NGC%20%205272%20%20%2020710&submit=submit
41	42 50.40	20 48.96	RRLyr	NGC 5272 1422	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193826&Name=NGC%20%205272%20%20%20201422&submit=submit
42	42 16.84	21 13.26	RRLyr	NGC 5272 1126	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192265&Name=NGC%20%205272%20%20%20201126&submit=submit
43	42 02.61	21 28.70	RRLyr	NGC 5272 366	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187213&Name=NGC%20%205272%20%20%2020366&submit=submit

44	42 06.58	21 28.36	RRLyr	NGC 5272 486	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187204&Name=NGC%20%205272%20%20%20486&submit=submit
45	42 09.25	21 43.64	RRLyr	NGC 5272 620	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187240&Name=NGC%20%205272%20%20%20620&submit=submit
46	42 15.71	21 41.36	RRLyr	NGC 5272 1080	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187187&Name=NGC%20%205272%20%201080&submit=submit
47	42 01.82	21 50.44	RRLyr	NGC 5272 355	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192145&Name=NGC%20%205272%20%20%20355&submit=submit
48	42 18.50	21 43.86	RRLyr	CI* NGC 5272 SAW V146	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187243&Name=CI*%20NGC%205272%20%20%2020SAW%20V146&submit=submit
49	41 58.04	21 58.41	RRLyr	NGC 5272 296	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187201&Name=NGC%20%205272%20%20%20296&submit=submit
50	42 09.00	21 56.67	RRLyr	NGC 5272 608	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%4014896602&Name=NGC%20%205272%20%20%20608&submit=submit
51	42 26.76	21 47.82	RRLyr	NGC 5272 1330	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192312&Name=NGC%20%205272%20%201330&submit=submit
52	42 10.80	21 59.03	RRLyr	NGC 5272 742	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194592&Name=NGC%20%205272%20%20%20742&submit=submit
53	42 11.98	22 00.90	RRLyr	NGC 5272 831	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187247&Name=NGC%20%205272%20%20%20831&submit=submit
54	42 09.86	22 04.00	RRLyr	SV* SVS 1365	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187289&Name=SV*%20SVS%20%201365&submit=submit
55	42 02.08	22 10.07	RRLyr	NGC 5272 362	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187312&Name=NGC%20%205272%20%20%20362&submit=submit
56	42 13.09	22 02.50	RRLyr	SV* SVS 2130	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194594&Name=SV*%20SVS%20%202130&submit=submit
57	42 08.14	22 13.26	Star	NGC 5272 555	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192187&Name=NGC%20%205272%20%20%20555&submit=submit
58	42 13.61	22 12.80	RRLyr	SV* SVS 1371	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187253&Name=SV*%20SVS%20%201371&submit=submit
59	42 11.64	22 13.65	RRLyr	CI* NGC 5272 SAW V154	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187332&Name=CI*%20NGC%205272%20%20%2020SAW%20V154&submit=submit
60	42 05.30	22 18.80	RRLyr	NGC 5272 437	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187191&Name=NGC%20%205272%20%20%20437&submit=submit
61	42 24.54	22 07.41	RRLyr	NGC 5272 1308	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192303&Name=NGC%20%205272%20%201308&submit=submit
62	42 12.25	22 15.24	RRLyr	NGC 5272 847	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192082&Name=NGC%20%205272%20%20%20847&submit=submit
63	42 16.26	22 13.59	RRLyr	NGC 5272 1102	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187266&Name=NGC%20%205272%20%201102&submit=submit
64	42 07.43	22 19.91	RRLyr	NGC 5272 524	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187320&Name=NGC%20%205272%20%20%20524&submit=submit
65	42 14.78	22 15.50	RRLyr	NGC 5272 1033	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193758&Name=NGC%20%205272%20%201033&submit=submit
66	42 03.93	22 26.03	RRLyr	NGC 5272 397	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187319&Name=NGC%20%205272%20%20%20397&submit=submit
67	42 04.98	22 32.10	RRLyr	SV* SVS 1363	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192164&Name=SV*%20SVS%20%201363&submit=submit
68	42 04.15	22 34.45	RRLyr	NGC 5272 402	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187257&Name=NGC%20%205272%20%20%20402&submit=submit
69	42 08.21	22 33.28	RRLyr	NGC 5272 559	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192333&Name=NGC%20%205272%20%20%20559&submit=submit
70	42 31.29	22 20.61	RRLyr	NGC 5272 1357	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187188&Name=NGC%20%205272%20%201357&submit=submit
71	42 10.75	22 37.60	RRLyr	NGC 5272 735	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187835&Name=NGC%20%205272%20%20%20735&submit=submit
72	42 04.74	22 44.31	RRLyr	NGC 5272 416	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187226&Name=NGC%20%205272%20%20%20416&submit=submit
73	42 25.92	22 31.95	RRLyr	NGC 5272 1320	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187200&Name=NGC%20%205272%20%201320&submit=submit
74	42 07.39	22 48.97	RRLyr	SV* SVS 1364	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187288&Name=SV*%20SVS%20%201364&submit=submit
75	42 00.31	22 51.87	RRLyr	NGC 5272 328	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192133&Name=NGC%20%205272%20%20%20328&submit=submit
76	42 23.65	22 40.32	RRLyr	NGC 5272 1298	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187317&Name=NGC%20%205272%20%201298&submit=submit
77	42 13.92	22 48.46	RRLyr	Gaia DR2 1.45478E+18	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%4014896607&Name=Gaia%20DR2%201454784420495752832&submit=submit
78	41 59.74	22 56.74	RV Tauri	NGC 5272 318	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192027&Name=NGC%20%205272%20%20%20318&submit=submit
79	42 13.61	22 50.94	RRLyr	NGC 5272 944	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187242&Name=NGC%20%205272%20%20%20944&submit=submit
80	42 23.25	22 42.15	RRLyr	NGC 5272 1292	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187217&Name=NGC%20%205272%20%201292&submit=submit
81	42 09.50	22 59.20	RRLyr	NGC 5272 638	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187261&Name=NGC%20%205272%20%20%20638&submit=submit
82	42 08.90	22 59.02	RRLyr	NGC 5272 604	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187330&Name=NGC%20%205272%20%20%20604&submit=submit
83	42 04.46	23 03.66	RRLyr	NGC 5272 409	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187227&Name=NGC%20%205272%20%20%20409&submit=submit
84	42 45.25	22 41.28	RRLyr	NGC 5272 1409	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186889&Name=NGC%20%205272%20%201409&submit=submit
85	42 04.29	23 09.60	RRLyr	NGC 5272 404	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193884&Name=NGC%20%205272%20%20%20404&submit=submit
86	42 05.90	23 09.08	RRLyr	NGC 5272 459	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187233&Name=NGC%20%205272%20%20%20459&submit=submit
87	42 17.04	23 02.81	RRLyr	CI* NGC 5272 SAW V165	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187256&Name=CI*%20NGC%205272%20%20%2020SAW%20V165&submit=submit
88	42 14.63	23 08.99	RRLyr	NGC 5272 1020	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187264&Name=NGC%20%205272%20%201020&submit=submit
89	42 10.87	23 10.97	RRLyr	NGC 5272 749	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187272&Name=NGC%20%205272%20%20%20749&submit=submit
90	42 19.06	23 06.89	RRLyr	NGC 5272 1207	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187314&Name=NGC%20%205272%20%201207&submit=submit
91	42 14.11	23 10.42	RRLyr	NGC 5272 985	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187239&Name=NGC%20%205272%20%20%20985&submit=submit

92	42 09.57	23 16.15	RRLyr	NGC 5272 643	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187237&Name=NGC%20%205272%20%2020643&submit=submit
93	42 10.18	23 17.92	RRLyr	NGC 5272 698	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187250&Name=NGC%20%205272%20%2020698&submit=submit
94	42 37.78	23 01.49	RRLyr	NGC 5272 1386	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186886&Name=NGC%20%205272%20%201386&submit=submit
95	42 14.98	23 15.79	RRLyr	CI* NGC 5272 SAW V176	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187265&Name=CI*%20NGC%205272%20%20%2020SAW%20V176&submit=submit
96	42 05.51	23 22.30	RRLyr	NGC 5272 445	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187211&Name=NGC%20%205272%20%2020445&submit=submit
97	42 09.44	23 20.48	RRLyr	NGC 5272 636	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187236&Name=NGC%20%205272%20%2020636&submit=submit
98	42 10.95	23 19.97	RRLyr	NGC 5272 755	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187244&Name=NGC%20%205272%20%2020755&submit=submit
99	42 07.01	23 25.94	RRLyr	NGC 5272 503	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187234&Name=NGC%20%205272%20%2020503&submit=submit
100	42 16.68	23 20.42	RRLyr	NGC 5272 1119	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187246&Name=NGC%20%205272%20%201119&submit=submit
101	42 04.94	23 27.93	RRLyr	NGC 5272 425	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187218&Name=NGC%20%205272%20%2020425&submit=submit
102	42 04.38	23 35.66	RRLyr	NGC 5272 407	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187210&Name=NGC%20%205272%20%2020407&submit=submit
103	42 17.47	23 29.49	RRLyr	NGC 5272 1153	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187326&Name=NGC%20%205272%20%201153&submit=submit
104	42 09.78	23 34.65	RRLyr	NGC 5272 669	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187235&Name=NGC%20%205272%20%2020669&submit=submit
105	42 08.17	23 37.75	RRLyr	NGC 5272 561	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187228&Name=NGC%20%205272%20%2020561&submit=submit
106	42 02.09	23 41.45	RRLyr	NGC 5272 361	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187189&Name=NGC%20%205272%20%2020361&submit=submit
107	42 13.93	23 36.01	Star	NGC 5272 972	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192234&Name=NGC%20%205272%20%2020972&submit=submit
108	42 17.46	23 33.52	RRLyr	NGC 5272 1151	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187248&Name=NGC%20%205272%20%201151&submit=submit
109	42 08.72	23 39.94	RRLyr	NGC 5272 593	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187205&Name=NGC%20%205272%20%2020593&submit=submit
110	42 12.39	23 42.32	RRLyr	NGC 5272 867	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187206&Name=NGC%20%205272%20%2020867&submit=submit
111	42 19.85	23 42.50	RRLyr	NGC 5272 1222	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187222&Name=NGC%20%205272%20%201222&submit=submit
112	42 13.97	23 47.43	RRLyr	NGC 5272 982	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187313&Name=NGC%20%205272%20%2020982&submit=submit
113	42 15.05	23 48.49	RRLyr	NGC 5272 1051	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187221&Name=NGC%20%205272%20%201051&submit=submit
114	41 42.83	24 17.52	RRLyr	NGC 5272 190	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187283&Name=NGC%20%205272%20%2020190&submit=submit
115	42 11.77	24 06.11	RRLyr	NGC 5272 818	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192218&Name=NGC%20%205272%20%2020818&submit=submit
116	42 44.71	23 45.69	RRLyr	NGC 5272 1406	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185474&Name=NGC%20%205272%20%201406&submit=submit
117	42 14.98	24 05.68	RRLyr	NGC 5272 1048	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185282&Name=NGC%20%205272%20%201048&submit=submit
118	41 38.00	24 33.45	RRLyr	NGC 5272 181	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193828&Name=NGC%20%205272%20%2020181&submit=submit
119	41 50.93	24 32.97	RRLyr	NGC 5272 234	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192104&Name=NGC%20%205272%20%2020234&submit=submit
120	42 16.76	24 19.77	RRLyr	NGC 5272 1122	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185281&Name=NGC%20%205272%20%201122&submit=submit
121	42 08.98	24 28.43	RRLyr	NGC 5272 616	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185298&Name=NGC%20%205272%20%2020616&submit=submit
122	42 24.37	24 21.97	RRLyr	NGC 5272 1307	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185270&Name=NGC%20%205272%20%201307&submit=submit
123	42 10.29	24 30.70	RRLyr	NGC 5272 708	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185289&Name=NGC%20%205272%20%2020708&submit=submit
124	41 52.97	24 42.36	RRLyr	NGC 5272 249	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187209&Name=NGC%20%205272%20%2020249&submit=submit
125	42 03.78	24 42.72	RRLyr	NGC 5272 396	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185274&Name=NGC%20%205272%20%2020396&submit=submit
126	42 01.51	24 44.24	RRLyr	NGC 5272 351	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185275&Name=NGC%20%205272%20%2020351&submit=submit
127	41 56.04	24 48.96	RRLyr	NGC 5272 279	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187208&Name=NGC%20%205272%20%2020279&submit=submit
128	42 30.67	24 28.80	RRLyr	NGC 5272 1353	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185300&Name=NGC%20%205272%20%201353&submit=submit
129	42 10.93	24 44.68	RRLyr	NGC 5272 759	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185271&Name=NGC%20%205272%20%2020759&submit=submit
130	42 09.50	25 07.32	RRLyr	NGC 5272 650	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185299&Name=NGC%20%205272%20%2020650&submit=submit
131	42 23.10	25 00.53	RRLyr	NGC 5272 1291	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185267&Name=NGC%20%205272%20%201291&submit=submit
132	42 05.62	25 13.29	RRLyr	NGC 5272 451	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185399&Name=NGC%20%205272%20%2020451&submit=submit
133	41 53.56	25 25.63	RRLyr	NGC 5272 253	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185297&Name=NGC%20%205272%20%2020253&submit=submit
134	42 14.33	25 14.36	RRLyr	NGC 5272 1003	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185425&Name=NGC%20%205272%20%201003&submit=submit
135	42 18.14	25 13.02	RRLyr	NGC 5272 1172	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187042&Name=NGC%20%205272%20%201172&submit=submit
136	42 15.15	25 21.30	RRLyr	NGC 5272 1057	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185277&Name=NGC%20%205272%20%201057&submit=submit
137	42 07.80	25 29.87	RRLyr	NGC 5272 541	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185405&Name=NGC%20%205272%20%2020541&submit=submit
138	42 16.31	25 27.14	RRLyr	NGC 5272 1105	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185279&Name=NGC%20%205272%20%201105&submit=submit
139	42 21.71	25 32.55	RRLyr	NGC 5272 1265	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185269&Name=NGC%20%205272%20%201265&submit=submit

140	42 13.10	25 37.06	RRLyr	NGC 5272 922	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185423&Name=NGC%20%205272%20%2020922&submit=submit
141	41 48.99	26 32.08	RRLyr	NGC 5272 223	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185287&Name=NGC%20%205272%20%2020223&submit=submit
142	42 34.65	26 29.03	RRLyr	NGC 5272 1373	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185280&Name=NGC%20%205272%20%201373&submit=submit
143	42 02.84	27 20.34	RRLyr	NGC 5272 374	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185268&Name=NGC%20%205272%20%2020374&submit=submit
144	41 54.78	27 51.95	RRLyr	NGC 5272 264	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185285&Name=NGC%20%205272%20%2020264&submit=submit
145	42 43.03	27 27.75	RRLyr	NGC 5272 1400	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185278&Name=NGC%20%205272%20%201400&submit=submit
146	41 55.91	28 05.64	RRLyr	NGC 5272 278	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185272&Name=NGC%20%205272%20%2020278&submit=submit
147	42 17.57	25 03.24	RRLyr	NGC 5272 1164	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185276&Name=NGC%20%205272%20%201164&submit=submit
148	42 05.64	28 16.70	RRLyr	NGC 5272 455	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186892&Name=NGC%20%205272%20%2020455&submit=submit
149	42 20.92	28 09.96	RRLyr	NGC 5272 1250	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186894&Name=NGC%20%205272%20%201250&submit=submit
150	42 20.11	28 12.43	RRLyr	NGC 5272 1234	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185273&Name=NGC%20%205272%20%201234&submit=submit
151	42 14.23	28 24.03	RRLyr	NGC 5272 999	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186882&Name=NGC%20%205272%20%2020999&submit=submit
152	42 00.67	28 39.82	RRLyr	NGC 5272 338	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185302&Name=NGC%20%205272%20%2020338&submit=submit
153	42 14.71	28 31.57	RRLyr	NGC 5272 1041	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186893&Name=NGC%20%205272%20%201041&submit=submit
154	42 25.79	28 45.70	RRLyr	NGC 5272 1321	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186895&Name=NGC%20%205272%20%201321&submit=submit
155	42 37.37	28 34.22	RRLyr	NGC 5272 1384	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186885&Name=NGC%20%205272%20%201384&submit=submit
156	42 18.22	29 39.15	RRLyr	NGC 5272 1187	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185436&Name=NGC%20%205272%20%201187&submit=submit
157	41 34.05	30 24.89	RRLyr	NGC 5272 170	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402186890&Name=NGC%20%205272%20%20170&submit=submit
158	42 12.22	33 03.65	RRLyr	NGC 5272 873	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185286&Name=NGC%20%205272%20%2020873&submit=submit
159	42 14.30	23 31.16	RRLyr	CI* NGC 5272 KG14	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194558&Name=CI*%20NGC%205272%20%20%2020%2020%2020%2020%2020%2020%2020%2020%2014&submit=submit
160	42 08.84	21 32.20	RRLyr	NGC 5272 597	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187318&Name=NGC%20%205272%20%2020597&submit=submit
161	42 09.44	17 30.28	RRLyr	NGC 5272 632	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192201&Name=NGC%20%205272%20%2020632&submit=submit
162	42 18.77	21 38.80	RRLyr	SV* SVS 1374	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187297&Name=SV*%20SVS%20%201374&submit=submit
163	41 41.00	20 55.55	RRLyr	CI* NGC 5272 SAW V287	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194602&Name=CI*%20NGC%205272%20%20%2020%2020%2020SAW%20V287&submit=submit
164	42 05.59	22 05.48	RRLyr	NGC 5272 447	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187324&Name=NGC%20%205272%20%2020447&submit=submit
165	42 10.83	22 08.48	RRLyr	NGC 5272 743	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187263&Name=NGC%20%205272%20%2020743&submit=submit
166	42 13.76	23 19.43	RRLyr	NGC 5272 968	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193787&Name=NGC%20%205272%20%2020968&submit=submit
167	42 09.66	22 49.30	RRLyr	NGC 5272 661	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187271&Name=NGC%20%205272%20%2020661&submit=submit
168	42 10.48	23 21.52	RRLyr	NGC 5272 719	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187262&Name=NGC%20%205272%20%2020719&submit=submit
169	42 13.09	22 58.40	RRLyr	NGC 5272 913	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187305&Name=NGC%20%205272%20%2020913&submit=submit
170	42 10.69	22 57.95	Longue période	Gaia DR3-1454784386135470000	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%4021465262&Name=Gaia%20DR3%201454784386135471232&submit=submit
171	42 12.74	22 29.84	RRLyr	NGC 5272 892	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%4014896608&Name=NGC%20%205272%20%2020892&submit=submit
172	42 15.47	22 23.08	RRLyr	NGC 5272 1072	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187238&Name=NGC%20%205272%20%201072&submit=submit
173	42 14.10	23 35.16	RRLyr	CI* NGC 5272 SAW V149	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187245&Name=CI*%20NGC%205272%20%20%2020%2020%2020SAW%20V149&submit=submit
174	42 08.07	22 49.45	RRLyr	NGC 5272 553	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187258&Name=NGC%20%205272%20%2020553&submit=submit
175	42 15.91	22 51.82	RRLyr	NGC 5272 1092	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187279&Name=NGC%20%205272%20%201092&submit=submit
176	42 09.33	23 15.20	RRLyr	NGC 5272 633	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187260&Name=NGC%20%205272%20%2020633&submit=submit
177	42 26.84	11 12.80	RRLyr	XX CVn	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193823&Name=V*%20XX%20CVn&submit=submit
178	42 12.80	21 44.82	RRLyr	NGC 5272 901	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187310&Name=NGC%20%205272%20%2020901&submit=submit
179	42 11.95	23 31.39	RRLyr	CI* NGC 5272 SAW V270 S	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%403890430&Name=CI*%20NGC%205272%20%20%2020%2020%2020SAW%20V270%20s&submit=submit
180	42 11.70	21 44.07	RRLyr	SV* SVS 1361	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187286&Name=SV*%20SVS%20%201361&submit=submit
181	42 11.61	23 05.69	RRLyr	NGC 5272 802	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187273&Name=NGC%20%205272%20%2020802&submit=submit
182	42 18.07	22 39.24	RRLyr	Gaia DR2-1454878188215870000	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%4014896381&Name=Gaia%20DR2%201454878188215878272&submit=submit
183	42 10.43	22 41.31	RRLyr	SV* SVS 1368	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194593&Name=SV*%20SVS%20%201368&submit=submit
184	42 09.58	22 21.60	RRLyr	NGC 5272 654	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192332&Name=NGC%20%205272%20%2020654&submit=submit
185	42 09.85	25 53.20	RRLyr	NGC 5272 679	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185284&Name=NGC%20%205272%20%2020679&submit=submit
186	42 14.56	22 54.50	RRLyr	NGC 5272 1013	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187307&Name=NGC%20%205272%20%201013&submit=submit
187	42 13.20	22 24.20	RRLyr	NGC 5272 917	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193755&Name=NGC%20%205272%20%2020917&submit=submit

188	42 12.98	22 23.74	RRLyr	Gaia DR2 1454784317415980000	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%4014896603&Name=Gaia%20DR2%201454784317415980000&submit=submit
189	42 15.09	23 25.68	Longue période	2MASS J13421508+2823256	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192245&Name=2MASS%20J13421508%2b2823256&submit=submit
190	42 14.21	22 11.15	RRLyr	SV* SVS 1360	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187285&Name=SV%20SVS%20%201360&submit=submit
191	42 10.70	22 18.00	RRLyr	CI* NGC 5272 SED S6	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193841&Name=CI%20NGC%205272%20%20%20SED%20S6&submit=submit
192	42 12.60	22 35.44	RRLyr	NGC 5272 881	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187275&Name=NGC%20%205272%20%20%20881&submit=submit
193	42 09.86	22 15.48	RRLyr	CI* NGC 5272 X	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402193788&Name=CI%20NGC%205272%20%20%20%20X%20%20%20%20%2013&submit=submit
194	42 09.56	22 12.42	RRLyr	SV* SVS 1366	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187290&Name=SV%20SVS%20%201366&submit=submit
195	42 41.49	19 08.05	delta Scuti	CI* NGC 5272 SAW V236	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194430&Name=CI%20NGC%205272%20%20%20SAW%20V236&submit=submit
196	42 13.30	19 50.93	Red giant	2MASS J13421329+2819508	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192230&Name=2MASS%20J13421329%2b2819508&submit=submit
197	42 06.73	20 56.75	Red giant	2MASS J13420673+2820567	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402192173&Name=2MASS%20J13420673%2b2820567&submit=submit
198	42 12.49	21 39.50	RRLyr	NGC 5272 877	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187270&Name=NGC%20%205272%20%20%20877&submit=submit
199	42 12.41	22 34.40	RRLyr	CI* NGC 5272 BBN N2	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%403888561&Name=CI%20NGC%205272%20%20%20BBN%20N2&submit=submit
200	42 12.41	22 53.20	RRLyr	CI* NGC 5272 KG 8a	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402194597&Name=CI%20NGC%205272%20%20%20%20KG%20%20%20%20%20%20%20%20%20%20%20%208a&submit=submit
201	42 09.89	23 08.45	RRLyr	NGC 5272 677	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187325&Name=NGC%20%205272%20%20%20677&submit=submit
202	42 09.83	23 29.35	RRLyr	NGC 5272 671	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187322&Name=NGC%20%205272%20%20%20671&submit=submit
203	42 11.09	24 10.19	RRLyr	NGC 5272 775	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187190&Name=NGC%20%205272%20%20%20775&submit=submit
204	42 20.12	24 53.54	RRLyr	NGC 5272 1231	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185288&Name=NGC%20%205272%20%20%201231&submit=submit
205	42 13.69	25 30.30	RRLyr	CI* NGC 5272 SAW V294	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187181&Name=CI%20NGC%205272%20%20%20SAW%20V294&submit=submit
206	42 12.05	26 26.47	Red giant	2MASS J13421204+2826265	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402185290&Name=2MASS%20J13421204%2b2826265&submit=submit
207	42 13.99	22 26.30	RRLyr	SV* SVS 1373	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187295&Name=SV%20SVS%20%201373&submit=submit
208	42 11.17	23 03.80	RRLyr	NGC 5272 769	https://simbad.cds.unistra.fr/simbad/sim-id?Ident=%402187282&Name=NGC%20%205272%20%20%20769&submit=submit

