



Werkgroep Veranderlijke Sterren

VARIABILIA 21 november 1988

Werkgroep Veranderlijke Sterren

p/a Kapteyn Laboratorium Postbus 800 Groningen

HET LOT VAN UW WAARNEMINGEN - DE AAVSO

Slaapgebrek, twijfel, verkleumde vingers, bevroren voeten en andere ongemakken moet de veranderlijke sterwaarnemer trotseren om helderheidsschattingen te maken. Deze worden vervolgens naar Henk Feijth, de waarnemingsleider van de werkgroep, verzonden.

Met noeste arbeid in de bewolkte avonduren controleert en ordent Henk Feijth Uw waarnemingen waarna hij ze in de computer opslaat. Onderschat U 't niet: een mooie maand levert al gauw zo'n 800 te verwerken waarnemingen op! Het resultaat van deze inzet vindt U in Variabilia: een lijst waarnemingen. Met deze publicatie zijn de waarnemingen in principe openbaar geworden en beschikbaar voor onderzoek en beschouwing.

Er wordt nog meer met Uw waarnemingen gedaan: ze worden ter beschikking gesteld aan de "American Association of Variable Star Observers", beter bekend als de AAVSO. Soms heeft men de indruk dat de AAVSO een veredeld soort prullenmand is, waarin de waarnemingen verdwijnen. Deels komt dit ongetwijfeld door de geringe terugkoppeling van de AAVSO met de waarnemers, deels door onbekendheid met de AAVSO.

In het volgende hoop ik aan te tonen dat de AAVSO een alomgewaardeerde organisatie is, die een nuttig gebruik van Uw waarnemingen mogelijk maakt en ze voor het nageslacht beschikbaar houdt.

De AAVSO werd in 1911 door Pickering en Tyler Olcott (de laatste was een amateur) opgericht teneinde hiermee een centraal inzamelingspunt te creëren voor waarnemingen van veranderlijke sterren. In deze opzet zijn zij geslaagd. Was het aanvankelijk nog een Amerikaans onderonsje met enige buitenlandse bijdragen; thans fungeert de AAVSO bijna als globaal verzamelpunt van alle waarnemingen. Gezien het toemende aantal bijdragen uit Oost-Europa, begint zelfs het "IJzeren Gordijn" enige scheurtjes te vertonen.

Volgens het laatste jaarverslag, dat de periode sept. '86 - sept. '87 beslaat, ontving de AAVSO 264.566 waarnemingen van 521 waarnemers. Een meerderheid daarvan, 282 waarnemers, woont buiten de V.S.; zij waren goed voor 152.143 waarnemingen. De Nederlandse bijdrage hierin was 8428 schattingen van 20 waarnemers.

Hoe worden de waarnemingen verwerkt? In het begin heel eenvoudig. Men zond de waarnemingen naar het Harvard Observatory waar de nog prille AAVSO zetelde. Daar werden, deels door vrijwilligers en deels door beroepsastronomen, de waarnemingen gesorteerd op ster. Vervolgens werd per ster een lijst aangelegd en een lichtkromme geplot, de zogenaamde "Running Light Curve", waarin 10-daagse gemiddelden werden geplot. De enige gereedschappen waren papier, potlood en een gummetje. De resultaten werden maandelijks gepubliceerd. Halverwege de dertiger jaren dwong het gestaag groeiende aantal waarnemingen de AAVSO ertoe de maandelijke bericht-

geving op te geven en over te gaan tot een kwartaal-publicatie in de Harvard-Annals. Per jaar werden toen zo'n 50.000 waarnemingen verwerkt. In 1946 nam de AAVSO de publicatie van de ontvangen waarnemingen in eigen beheer, maar de eigenlijke verwerkingsprocedure bleef ongewijzigd. Het grafiekpapier, potlood en het gummetje bleven tot in 1967 in gebruik. Er stroomden toen jaarlijks zo'n 100.000 waarnemingen binnen; de handmatige verwerking dreigde overwelmd te worden door het grote aantal waarnemingen.

In 1967 deed de computer haar intrede bij de AAVSO. De binnengekomen waarnemingen werden op ponskaart gezet en vervolgens gesorteerd op ster. Het "Harvard-Smithsonian Centre of Astrophysics" gaf de AAVSO toegang tot haar CDC-mainframe computer. De ponskaarten bleven echter fungeren als permanent archief; pas in 1976 kon de AAVSO gebruik maken van magneetbanden om haar gegevens permanent op te slaan. De inhoud van 700 ponskaartendozen werd toen op magneetband gezet. De "Running Light Curve" werd overigens nog steeds met de hand geplot!

In 1978 schakelde het Center for Astrophysics over van een CDC-mainframe op een DEC-mainframe. 't Kostte de AAVSO enige maanden om de data-bestanden en de ontwikkelde software over te zetten naar het nieuwe systeem. Inmiddels was de AAVSO al enige jaren bezig om de oudere waarnemingen "op de computer te zetten"; een monnikenwerk dat pas recentelijk is voltooid. Al met al moet het voor de AAVSO-medewerkers een hectische periode zijn geweest: bestaande programmatuur moest worden overgezet naar de nieuwe computer, er moesten programma's worden geschreven om de reeds bestaande data--bestanden leesbaar te maken voor het nieuwe systeem, terwijl er per maand gemiddeld 10.000 nieuwe waarnemingen binnen stroomden!

In de loop de jaren had de AAVSO een werkelijk enorme hoeveelheid gegevens opgebouwd; een verantwoorde verwerking ervan werd steeds moeilijker. In 1981 slaagde de AAVSO erin fondsen te werven om een eigen micro-computersysteem aan te schaffen.

De laatste traditie sneuvelde in 1983: de "Running Light Curve" werd vervangen door een lichtkromme waarin elke geaccepteerde waarneming wordt geplot.

De AAVSO heeft sinds haar oprichting 5.919.920 waarnemingen ontvangen en gearchiveerd. Deze zijn thans allemaal beschikbaar voor de DEC-computer van het "Harvard-Smithsonian Center for Astrophysics". Deze computer verzorgt ook de opslag van alle gegevens. Ze zijn vastgelegd op magneetbanden; beroepsastronomen kunnen altijd de gegevens opvragen ten behoeve van hun onderzoeksprojecten.

Hoe worden Uw waarnemingen nu gebruikt?De gegevens van het meest recente jaarverslag mogen het een en ander illustreren.

In het fiscale jaar 1987 (sept. '86-sept '87) honoreerde de AAVSO 148 verzoeken om informatie. Om wat voor informatie gaat het hier?

● Data correlaties (38%):

De visuele gegevens van de AAVSO worden gebruikt om

fotometrische- en spectroscopische gegevens te correleren. De gegevens kunnen afkomstig zijn van een groot aantal instrumenten zoals (radio)telescopen en satellieten (gamma, Röntgen, UV, IR). Meer dan eens blijken de visuele gegevens van grote waarde.

● Informatie (34%):

Ten behoeve van artikelen in tijdschriften (bv. Sky & Telescope, Astronomy etc) en nieuwsbladen. Ook worden gegevens beschikbaar gesteld t.b.v. wetenschappelijk onderzoek. Voorts worden onderzoeksprojecten en afstudeeropdrachten geïnfomeerd en, indien gewenst, begeleid.

● "Central Bureau of Astronomical Telegrams" (11%):

Ongewoon gedrag van variabelen, novae en supernovae wordt doorgegeven aan het voornoemde IAU-bureau. Beroeps-astronomen kunnen hier baat bij hebben. Vaak wordt een abnormaal gedrag het eerst door een amateur opgemerkt!

● Organiseren van waarneemsessies (11%):

Meer dan eens is een astronoom slechts geïnteresseerd in een bepaalde fase van een veranderlijke ster. Te denken valt hierbij aan bbv. de emissielijnen in het spectrum van een Mira ster in het maximum of de zeer snelle helderheidstoename van een dwergnova. Op grond van de ingezonden waarnemingen adviseert de AAVSO inzake het aanvragen van telescooptijd; een maximum willen waarnemen als de ster al weer in de dalende tak zit is bepaald frustrerend (telescooptijd dient immers ver vooruit te worden aangevraagd).

● Simultaan waarnemen (6%):

Soms is het belangrijk dat het visuele gedrag van een veranderlijke bekend is als deze ster met een satelliet, radiotelescoop e.d. wordt waargenomen. De AAVSO kan deze gegevens, dank zij de inzet van de amateurs leveren. In het afgelopen jaar bleek de visuele lichtkromme in acht gevallen van essentieel belang voor het welslagen van de waarnemingen.

Tot slot nog een uitsplitsing naar het type ster:

| | |
|--|-------|
| Cataclysmische veranderlijken: | 43% |
| Mira sterren | : 19% |
| Half regelmatigen (SR) | : 10% |
| R CrB | : 6% |
| Zon (ja, ja, óók AAVSO) | : 5% |
| RV Tau sterren | : 4% |
| Supernovae | : 4% |
| Symbiose sterren (Z And type): | 2% |
| Diversen ("suspected Var's, Cepheids, Irr's e.d.: | 7% |

Het moge duidelijk zijn dat de AAVSO bepaald geen "prullebak" is waarin Uw waarnemingen verdwijnen. Integendeel, het is een organisatie waarin jaarlijks zo'n 350.000 dollar wordt uitgegeven; dat is ongeveer \$ 1.32 per ontvangen waarneming. De AAVSO zorgt ervoor dat Uw schatting wordt geregistreerd en niet meer verloren gaat. Dat geldt trouwens ook voor de fout die U bij het schatten hebt gemaakt!

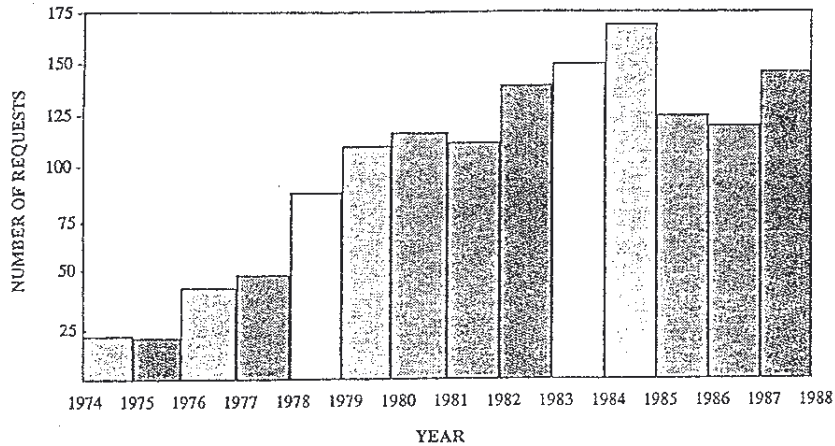
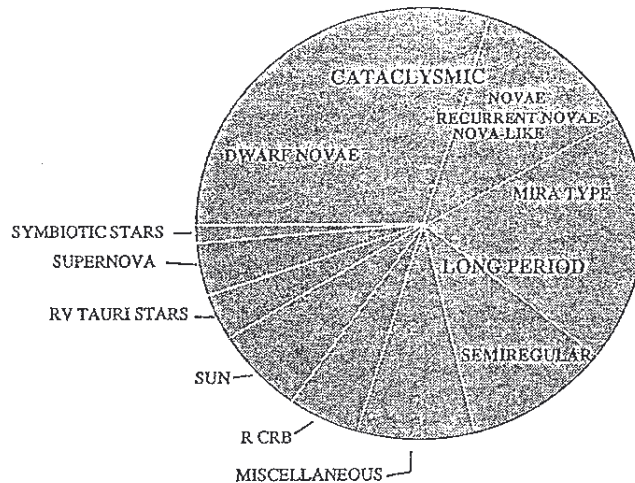


Figure 1. Number of requests from astronomers for AAVSO data filled each year since 1974.



Peter Serne

H. Feijth: Waarnemen in Puimichel

Zoals u weet ga ik regelmatig naar Puimichel in het departement Alpes de Haute Provence (04) om in de "vakantiesterrenwacht" waar te nemen van Dany Cardoen en zijn echtgenote Arlette Steenmans. Daar zijn ter beschikking voor de amateur/gast een 406 en een 520 mm Newton, alsmede sinds zeer kort een 1060 mm F3.5 Newton. Laatstgenoemde kijker is nog niet geheel klaar; de motoraandrijving is nog niet klaar. In de zomermaanden is het bij afwezigheid van de maan nogal druk, zodat het aanbeveling verdient zelf een instrument mee te nemen.

Wat betreft het weer kan opgemerkt worden dat het gemiddeld 60% van de nachten helder is. Dit percentage is afhankelijk van het seizoen; in de maanden juli-oktober is dit ongeveer 75% en in de overige maanden, waarin het weer wisselvalliger is, circa 50%. Altijd nog veel beter dan hier! Bovendien zijn de temperaturen veel aangenamer.

De lucht is als regel transparanter dan hier te lande; de Provençaalse luchten zijn bekend vanwege hun blauwheid. Aangezien in Puimichel niet veel storend licht aanwezig is (al is er nu veel meer storend licht dan zo'n vijf jaar geleden) is de zenithale grensgrootte in een maanloze nacht ca. 6.5. In een zeer goede nacht is het zelfs mogelijk 7.0 in het zenit te zien!

De seeing is niet beter dan hier en wanneer de Mistral waait zelfs veel slechter. Dan kan het turbulentieschijfje zelfs toenemen tot een halve boogminuut! Zonder Mistral is deze ca. twee boogseconden.

In de periode 20 juli-10 augustus ben ik samen met Peter Bus in Puimichel geweest, waar we met name in het begin goed weer troffen. Slechts een paar nachten hebben we niet kunnen waarnemen. We troffen dat R CrB juist in helderheid begon af te nemen, zodat wij de dalende tak goed konden registreren, zowel visueel als fotografisch met een kleine telelens. Zelf heb ik enige uitbarstingen kunnen waarnemen van enkele UG-sterren zoals RX And, AR And, SS Cyg, AY Lyr, CY Lyr alsmede SU UMa. Daar is het ideaal voor het waarnemen van UG-sterren omdat het bijna elke nacht helder is. Aan het waarnemen van eclipsveranderlijken ben ik niet toegekomen. Wel kan ik mij voorstellen dat een liefhebber van deze tak van waarnemen daar zijn hart kan ophalen. De kans een minimum te missen is daar in tegenstelling tot hier niet zo groot. Bovendien is vanwege de zuidelijke ligging (43 graden NB) in de zomer de duur van de nachten langer. Daarbij komt nog dat de duur van de schemering daar beduidend korter is dan hier. Verademend is bepaald de afwezigheid van het fenomeen grijze nacht. Dus een minimum dat enige uren in beslag neemt kan probleemloos worden gevolgd. Omdat men op vakantie is hoeft men zich bovendien niet te bekommeren om de wekker.

We kunnen dus stellen dat Puimichel een aangenaam oord is voor de (aktieve) waarnemer, temeer daar het observeren goed gecombineerd kan worden met vakantiehouden in een fraaie omgeving.

Van de waarnemingsleider: Waarnemingsresultaten juni-augustus 1988

In onderstaande tabel staan vermeld de waarnemers alsmede de per maand verrichte aantal waarnemingen. De aantallen tussen haakjes zijn de positieve waarnemingen zwakker dan 13.7 en de negatieve schattingen zwakker dan 14.0

| Waarnemer | | juni | juli | augustus | totaal |
|------------------|-----|----------|-----------|-----------|--------|
| R.J. Bouma | BMU | 37 | 35 | 276 (1) | 349 |
| E.P. Bus | BEP | | 8 | 8 | 16 |
| G. Comello | CMG | 231 (14) | 2 | 377 (30) | 610 |
| H. Feijth | FJH | 142 (26) | 364 (104) | 494 (115) | 1000 |
| P.C.A. Kerkvliet | KKP | 12 | 12 | 6 | 30 |
| G. Kuipers | KPG | | 42 (3) | 25 | 67 |
| J.O. Luurs | LJO | 16 | 19 | 25 | 60 |
| R. Mink | MNK | 18 | | | 18 |
| W. Nobel | NWL | 36 | 11 | 42 | 90 |
| A. Scholten | SCL | 6 | 4 | 11 | 21 |
| P. Serne | SEN | 34 | 23 | 43 | 100 |
| M. Westenbroek | WMB | 18 | | | 18 |
| Totaal | | 551 | 520 | 1307 | 2379 |

Duidelijk is dat augustus de minst slechte maand was van de drie zomermaanden.

Tot slot nog een rectificatie. In het jaaroverzicht van 1987 is abusievelijk één waarneming niet meegenomen van M. Roos uit Bennebroek. Dus, waarnemer, als u niet de kans wil lopen vergeten te worden in het bestand doe dan meer waarnemingen !

Bij het printen van de waarnemingen die verschenen zijn in de vorige Variabilia zijn om een voor mij volslagen onduidelijke redenen enkele regels, die wel aanwezig waren in de oorspronkelijke file, weggevallen. Hiervoor mijn verontschuldigingen.

Observaria

Nu september, die veelbelovend was begonnen maar daarna verslechterde, op zijn eind loopt een terugblik op de afgelopen maanden. Hoogtepunt was de plotse afname van R CrB eind juli, die Peter Bus en ik vanuit Puimichel goed konden volgen. Wat een gelukkig toeval voor ons ! R CrB is nog steeds vrij zwak; de afgelopen maand fluctueerde de helderheid tussen 10 en 11.5. Het zou jammer zijn indien dit minimum spoedig zou eindigen. Een andere veel zwakkere R CrB ster, nl. V482 Cygni, die normaal van de 11e grootte is, is na een maximum van 10 jaar dit jaar in een minimum getreden. Momenteel is deze ster 14. De UGSU-ster VY Aqr die vroeger voor een recurrente nova werd gehouden, onderging begin september een supermaximum (10e grootte), waarvan enkele werkgroepsleden een glimp hebben kunnen opvangen.

Het lijkt erop dat Z Cam eindelijk de stilstandtoestand heeft verlaten; op 24 september schatte ondergetekende deze op 13.3. En nu maar hopen dat Z Cam voorlopig niet terugkeert naar die saaie stilstand !

| | | | | |
|--|---|---|--|--|
| 000451 SS Cas type Mira | 391.4 112 FJH 403.4 112 CMG 405.4 117 BMU | 390.5 104 FJH 391.5 106 BMU 400.5 105 FJH 403.4 102 CMG 405.4 98 BMU | 368.48 113 FJH 369.44 110 FJH 370.4 110 FJH 373.5 131 FJH 379.50 140 FJH 380.47 139 FJH 381.51 115 FJH 383.41 110 FJH 387.45 109 FJH 389.37 111 FJH 390.44 121 FJH 391.41 134 FJH 393.55 142 FJH 400.38 110 FJH 403.41 129 FJH | 390.4 98 FJH 391.4 99 CMG 400.4 98 CMG |
| 324.5 136 CMG 351.5 133 FJH 367.5 117 FJH 370.5 114 BMU 386.5 110 BMU 390.4 111 FJH 391.4 111 CMG 400.4 103 BMU 400.4 103 CMG 405.4 100 BMU | 0019-09 S Cet type Mira | 004533 RR And type Mira | 381.51 115 FJH 383.41 110 FJH 387.45 109 FJH 389.37 111 FJH 390.44 121 FJH 391.41 134 FJH 393.55 142 FJH 400.38 110 FJH 403.41 129 FJH | 011208 S Psc type Mira |
| 000928 UW And type Mira | 393.4 86 CMG | 002725A TU And type Mira | 354.5 94 FJH 368.5 104 FJH 379.5 109 FJH 390.5 113 FJH 391.4 114 CMG 391.4 111 BMU 400.5 117 FJH 403.4 114 CMG 405.4 115 BMU | 366.5 128 FJH 386.5 135 FJH 391.5 137 CMG |
| 325.5 107 FJH 354.5 117 FJH 367.5 122 FJH 380.5 135 FJH 387.5 136 FJH 393.4 138 CMG | 003162 TY Cas type Mira | 004746A RV Cas type Mira | 0101-02 Z Cet type Mira | 011272 S Cas type Mira |
| 001046 X And type Mira | 368.4 121 FJH 390.4 126 FJH 393.4 117 CMG 400.4 123 CMG | 314.5 90 CMG 324.5 90 CMG 326.6 90 SEN 368.4 105 FJH 370.5 106 BMU 379.4 112 FJH 386.5 113 BMU 390.4 119 FJH 390.5 118 SEN 391.3 118 CMG 400.4 118 BMU 400.4 125 CMG 400.4 126 FJH | 393.4 96 CMG 010359 HT Cas type UGSS+EA 367.56 159 FJH 368.53 160 FJH 380.44 160 FJH 381.45 161 FJH | 380.4 147 FJH 388.5 144 FJH 393.4 140 CMG |
| 325.5 135 FJH 351.5 141 FJH 365.50 144 FJH 378.5 144 FJH 386.5 145 FJH 390.4 145 CMG | 003179 Y Cep type Mira | 004746B IZ Cas type SR | 010621A X Psc type Mira | 011712 U Psc type Mira |
| 001726 T And type Mira | 354.5 147 FJH 386.5 146 FJH 393.4 143 CMG | 004958 W Cas type Mira | 366.5 123 FJH 386.5 134 FJH 393.4 136 CMG | 366.6 125 FJH 386.5 120 FJH 391.5 118 CMG |
| 352.5 136 FJH 365.5 138 FJH 378.5 132 FJH 390.4 117 CMG 390.5 122 FJH 391.4 121 BMU 400.4 114 BMU 400.5 113 FJH 403.4 114 CMG | 314.5 117 CMG 324.5 111 CMG 326.5 111 SEN 368.4 90 FJH 370.5 88 BMU 379.4 92 FJH 386.5 90 BMU 390.4 93 FJH 390.5 89 SEN 391.3 93 CMG 400.4 94 BMU 400.4 95 CMG 405.4 97 SEN | 010937 FO And type UG | 010940 U And type Mira | 391.5 121 CMG 403.4 126 CMG |
| 001755 T Cas type Mira | 004132 RW And type Mira | 314.5 108 CMG 324.4 107 KKP 324.5 106 CMG 368.4 101 FJH 369.5 97 SEN 370.5 98 BMU 379.4 99 FJH 386.5 97 BMU 390.4 101 FJH 390.5 96 SEN 391.3 99 CMG 400.4 97 BMU 400.4 97 CMG 405.4 98 SEN | 365.52<154 FJH 366.55<154 FJH 367.55 143 FJH 368.52 142 FJH | 367.55<158 FJH 368.52<158 FJH 395.50 132 FJH |
| 314.5 92 CMG 324.5 95 CMG 368.4 114 FJH 379.4 115 FJH 390.4 117 FJH 391.3 113 CMG 400.4 116 CMG 400.4 117 BMU 400.4 118 FJH | 004435 V And type Mira | 005840 RX And type UGZ | 011041A UZ And type Mira | 012350 RZ Per type Mira |
| 001838 R And type Mira | 354.5 95 FJH 368.5 90 FJH 379.5 85 FJH 390.5 87 FJH 391.4 87 CMG 403.4 86 CMG | 314.5 108 CMG 324.4 107 KKP 324.5 106 CMG 368.4 101 FJH 369.5 97 SEN 370.5 98 BMU 379.4 99 FJH 386.5 97 BMU 390.4 101 FJH 390.5 96 SEN 391.3 99 CMG 400.4 97 BMU 400.4 97 CMG 405.4 98 SEN | 366.5 123 FJH 386.5 134 FJH 393.4 136 CMG | 391.5 121 CMG 403.4 126 CMG |
| 368.5 96 FJH 378.4 106 FJH 390.4 111 CMG 391.4 110 BMU | 004435 V And type Mira | 005840 RX And type UGZ | 354.5 132 FJH 365.5 124 FJH 380.5 112 FJH 390.4 110 FJH 391.4 110 CMG 403.4 109 CMG | 012502 R Psc type Mira |
| 324.5 128 FJH 366.6 115 FJH 379.5 111 FJH 390.4 104 CMG | 004435 V And type Mira | 005840 RX And type UGZ | 011055A VZ Cas type Mira | 391.5 110 CMG |
| 368.5 96 FJH 378.4 106 FJH 390.4 111 CMG 391.4 110 BMU | 352.5 128 FJH 366.6 115 FJH 379.5 111 FJH 390.4 104 CMG | 354.51 138 FJH 365.51 140 FJH 366.5 141 FJH 367.5 138 FJH | 324.5 127 CMG 369.4 102 FJH | 366.6 140 FJH 380.5 135 FJH 390.5 130 FJH |

| | | | |
|----------------|----------------|----------------|----------------|
| ----- | 380.52 129 FJH | ----- | 386.5 150 FJH |
| 013338 Y And | 381.50 126 FJH | 354.5 111 FJH | 034711 IK Tau |
| type Mira | 383.42 127 FJH | 368.5 111 FJH | type Mira |
| | 386.51 136 FJH | 391.5 121 FJH | |
| 354.5 132 FJH | 387.48 139 FJH | 391.5 124 CMG | 393.6 134 FJH |
| 366.5 140 FJH | 388.51 141 FJH | 400.5 121 FJH | ----- |
| 379.5 143 FJH | 393.47 136 FJH | 403.4 128 CMG | 390.5 116 FJH |
| 386.5 147 FJH | 400.50 126 FJH | ----- | ----- |
| 390.4 145 CMG | 403.50 127 FJH | 022639 N88And | 060443 RR Aur |
| 393.5 146 FJH | 405.47 134 FJH | type N | type Mira |
| ----- | ----- | ----- | ----- |
| 013937 AR And | 021024 R Ari | 261.40:123 BMU | |
| type UGSS | type Mira | ----- | |
| | | 022980 RR Cep | 043065 T Cam |
| 354.52 123 FJH | 368.5 103 FJH | type Mira | type Mira |
| 367.56:158 FJH | 390.5 115 FJH | | |
| 368.52:158 FJH | 391.5 114 CMG | 354.5 145 FJH | 324.5 133 CMG |
| 379.49 119 FJH | 403.4 117 CMG | 386.5 141 FJH | 380.5 138 FJH |
| 380.48 121 FJH | ----- | 393.4 138 CMG | 386.5 137 FJH |
| 381.45 128 FJH | 021143A W And | ----- | 391.4 135 CMG |
| 405.47 123 FJH | type Mira | 023033 R Tri | 400.5 130 FJH |
| ----- | ----- | type Mira | 403.4 126 CMG |
| 014958 X Cas | 368.5 131 FJH | ----- | ----- |
| type Mira | 380.5 130 FJH | 362.4 72 KKP | 043274 X Cam |
| | 390.4 129 CMG | 380.4 : 79 KKP | type Mira |
| 314.5 108 CMG | 390.5 128 FJH | 391.4 78 BMU | |
| 324.5 106 CMG | 391.5 125 BMU | 391.5 79 CMG | 314.5 114 CMG |
| 391.4 108 CMG | 403.4 122 CMG | 400.4 80 BMU | 324.5 122 CMG |
| 400.4 109 CMG | 405.4 120 BMU | 403.4 81 CMG | 368.4 104 FJH |
| ----- | ----- | ----- | 379.5 94 FJH |
| 015254 U Per | 021258 T Per | 030226 Z Ari | 391.4 81 BMU |
| type Mira | type SRC | type Mira | 391.4 84 CMG |
| | | | 400.4 78 BMU |
| 325.5 81 SCL | 393.3 91 CMG | 386.5 124 FJH | 400.4 80 CMG |
| 369.5 88 SEN | 403.4 95 CMG | ----- | ----- |
| 388.5 93 SEN | ----- | 030514 U Ari | 044617 V Tau |
| 391.4 96 BMU | 021281 Z Cep | type Mira | type Mira |
| 391.5 96 CMG | type Mira | | |
| 400.4 97 BMU | | 390.5 91 FJH | 391.6 96 FJH |
| 403.4 99 CMG | 386.5 142 FJH | ----- | ----- |
| 405.4 :101 SEN | 393.4 :147 CMG | 032043 Y Per | 050953 R Aur |
| ----- | ----- | type Mira | type Mira |
| 015912 S Ari | 0214-03 Mira | ----- | ----- |
| type Mira | type Mira | 362.4 101 KKP | 381.5 123 FJH |
| | | 391.4 96 BMU | 388.5 129 FJH |
| 386.5 146 FJH | 391.5 89 FJH | 391.5 95 CMG | 393.4 127 CMG |
| ----- | 393.4 97 CMG | 400.3 : 99 KKP | 403.4 127 CMG |
| 020114 TT Ari | 400.5 90 BMU | 400.4 97 BMU | 403.5 131 FJH |
| type UGZ | ----- | 403.4 96 CMG | ----- |
| | 021558 S Per | ----- | 063444A AA Aur |
| 393.58 109 FJH | type SRC | 032335 R Per | type Mira |
| ----- | ----- | type Mira | |
| 020227 Z Tri | 369.5 88 SEN | ----- | ----- |
| type Mira | 388.5 89 SEN | 380.5 137 FJH | 393.4 136 CMG |
| | 391.4 88 BMU | 386.5 133 FJH | 393.6 138 FJH |
| 390.5 97 FJH | 393.3 86 CMG | 391.5 131 CMG | ----- |
| ----- | 400.4 87 BMU | 400.5 121 FJH | 053337 RU Aur |
| 020356 UV Per | 403.4 90 CMG | 403.4 129 CMG | type Mira |
| type UGSS | 405.4 90 SEN | ----- | |
| | ----- | 032443 GK Per | 390.5 119 FJH |
| 380.52<157 FJH | 0220-00 R Cet | type Na | ----- |
| ----- | type Mira | | 053531 U Aur |
| 020657A TZ Per | | 391.4 131 BMU | type Mira |
| type UGZ | 393.4 82 CMG | ----- | |
| | 400.5 79 BMU | 034532 RX Per | 391.5 121 FJH |
| 366.54 126 FJH | ----- | type Mira | ----- |
| 367.56 126 FJH | 022150 RR Per | | 054974 V Cam |
| 379.52 136 FJH | type Mira | 386.5 <146 FJH | type Mira |
| | | | |
| | | | 403.5 87 FJH |

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|----------------|-----------|-------|----------|-----------|-------|-------|-----------|-----------|-------|---------|-------|-----------|-----|
| 080362 SU UMa | 400.4 | 73 | BMU | 382.4 | 95 | CMG | 325.4 | 85 | NWL | ----- | ----- | ----- | |
| type UGSU | 115158 | Z | UMa | 388.4 | 89 | NWL | 325.5 | 83 | SCL | 133273 | T | UMi | |
| | | | type SRb | 390.4 | 88 | BMU | 332.4 | 79 | KKP | | | type Mira | |
| 381.51 121 FJH | | | | 390.4 | 89 | SCL | 333.5 | 80 | NWL | | | | |
| 383.46 121 FJH | 316.4 | 78 | KKP | 390.4 | 90 | CMG | 342.4 | 80 | NWL | 317.4 | 137 | FJH | |
| ----- | 317.4 | : | 77 | SEN | 390.4 | 90 | SEN | 348.4 | 79 | KKP | 324.5 | 140 | CMG |
| 081473 Z Cam | 324.4 | 73 | KKP | 393.4 | 86 | NWL | 352.4 | 77 | SCL | 354.4 | 144 | FJH | |
| type UGZ | 324.4 | 76 | BMU | 400.3 | 86 | CMG | 352.5 | 78 | SEN | 387.4 | 141 | FJH | |
| | 324.4 | 77 | SEN | 400.4 | 85 | BMU | 362.4 | 86 | KKP | 390.4 | 143 | CMG | |
| 314.43 114 FJH | 324.4 | 78 | CMG | 400.4 | 87 | NWL | 370.4 | 80 | BMU | ----- | ----- | ----- | |
| 324.5 116 BMU | 324.4 | 78 | CMG | 403.3 | 85 | SCL | 370.4 | 82 | FJH | 134434 | RT | CVn | |
| 325.42 117 CMG | 325.4 | 76 | NWL | 405.4 | 85 | SEN | 381.5 | 83 | SEN | | | type Mira | |
| 370.4 116 BMU | 332.4 | 69 | KKP | ----- | ----- | ----- | 382.4 | 82 | BMU | | | | |
| 377.44 112 BMU | 333.5 | 74 | NWL | 123307 | R | Vir | 388.4 | 86 | NWL | 317.5 | 134 | FJH | |
| 380.38 115 CMG | 342.4 | 70 | NWL | type Mira | | | 390.4 | 83 | BMU | 333.4 | 113 | FJH | |
| 381.38 115 FJH | 352.4 | 69 | SEN | | | | 390.4 | 85 | CMG | 365.4 | 104 | FJH | |
| 382.4 116 BMU | 352.4 | 73 | KKP | 314.4 | 73 | CMG | 390.4 | 86 | SCL | 373.4 | 109 | FJH | |
| 386.5 116 BMU | 362.4 | 73 | NWL | 324.4 | 71 | CMG | 390.4 | 86 | SEN | ----- | ----- | ----- | |
| 388.41 114 FJH | 367.4 | 78 | KKP | 325.4 | 68 | BMU | 393.4 | 86 | NWL | 134440 | R | CVn | |
| 390.4 115 BMU | 370.4 | 77 | BMU | 370.4 | 98 | FJH | 400.3 | 89 | CMG | | | type Mira | |
| 391.50 117 CMG | 381.5 | 78 | SEN | ----- | ----- | ----- | 400.4 | 87 | BMU | | | | |
| 393.37 117 CMG | 382.4 | 78 | BMU | 123366 | RV | Dra | 400.4 | 87 | NWL | 314.4 | 117 | CMG | |
| 393.4 116 BMU | 388.4 | 78 | NWL | type Mira | | | 403.3 | 88 | SCL | 314.4 | 117 | FJH | |
| 395.39 115 FJH | 390.4 | 79 | BMU | | | | 405.4 | 88 | SEN | 324.4 | 115 | CMG | |
| 400.4 116 BMU | 390.4 | 79 | CMG | 314.5 | 107 | CMG | ----- | ----- | ----- | 333.4 | 116 | FJH | |
| 403.38 116 CMG | 390.4 | 82 | SEN | 316.4 | 106 | FJH | 124204 | RU | Vir | 350.4 | 116 | FJH | |
| 405.4 115 BMU | 393.4 | 81 | NWL | 317.5 | 107 | SEN | type Mira | | | 365.4 | 109 | FJH | |
| ----- | 400.3 | 79 | CMG | 324.4 | 107 | SEN | | | | 373.4 | 108 | FJH | |
| 093178 Y Dra | 400.4 | 78 | BMU | 324.5 | 111 | CMG | 314.4 | 101 | CMG | 377.4 | 103 | BMU | |
| type Mira | 400.4 | 78 | NWL | 348.4 | 113 | FJH | 324.4 | 103 | CMG | 388.4 | 101 | BMU | |
| | 405.4 | : | 78 | SEN | 352.5 | 116 | SEN | 370.4 | 100 | FJH | 391.4 | 103 | FJH |
| | ----- | ----- | ----- | 380.4 | 136 | FJH | ----- | ----- | ----- | 393.4 | 103 | CMG | |
| 325.5 147 CMG | 122001 | SS | Vir | 388.4 | 141 | FJH | 124238 | U | CVn | 403.4 | 99 | BMU | |
| 354.4 140 FJH | type Mira | | | 393.3 | 140 | CMG | type Mira | | | 403.4 | 102 | CMG | |
| 381.4 131 FJH | | | | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | |
| 391.4 121 CMG | 314.4 | 97 | CMG | 123459 | RS | UMa | 314.4 | 120 | CMG | 140113 | Z | Boo | |
| 393.4 120 BMU | 324.4 | 97 | CMG | type Mira | | | 316.4 | 118 | FJH | | | type Mira | |
| 400.4 112 CMG | ----- | ----- | ----- | | | | 324.4 | 122 | CMG | | | | |
| 405.4 105 BMU | 122532 | T | CVn | 314.4 | 92 | CMG | 333.4 | 124 | FJH | 314.4 | 105 | CMG | |
| ----- | type Mira | | | 317.4 | 93 | SEN | 388.4 | :137 | FJH | 314.4 | 107 | FJH | |
| 093934 R LMi | 324.4 | 97 | BMU | 324.4 | 97 | BMU | ----- | ----- | ----- | 324.4 | 109 | CMG | |
| type Mira | 314.4 | 99 | CMG | 324.4 | 97 | CMG | 124606 | U | Vir | 350.4 | 127 | FJH | |
| | 324.4 | 102 | CMG | 324.4 | : | 98 | SEN | type Mira | | 381.4 | 136 | FJH | |
| 323.4 76 NWL | 325.4 | 100 | NWL | 325.4 | 94 | NWL | | | | ----- | ----- | ----- | |
| 335.4 77 NWL | 377.4 | 104 | BMU | 333.5 | :100 | NWL | 314.4 | 115 | FJH | 1405-12 | Z | Vir | |
| ----- | 393.4 | 106 | BMU | 350.4 | 111 | FJH | 314.4 | 117 | CMG | | | type Mira | |
| 094211 R Leo | 405.3 | 106 | CMG | 352.4 | 114 | SEN | 324.4 | 122 | CMG | | | | |
| type Mira | 405.3 | 107 | BMU | 367.4 | 125 | FJH | ----- | ----- | ----- | 325.4 | 112 | CMG | |
| | ----- | ----- | ----- | 380.4 | 130 | FJH | 131546 | V | CVn | ----- | ----- | ----- | |
| 288.5 60 WMB | 1228-03 | Y | Vir | 381.5 | 127 | SEN | type SRa | | | 141567 | U | UMi | |
| 288.5 61 MNK | type Mira | | | 388.4 | 136 | FJH | | | | | | type Mira | |
| 295.5 57 WMB | | | | 390.4 | 134 | BMU | 393.4 | 78 | BMU | | | | |
| 295.5 60 MNK | 314.4 | 103 | CMG | 390.4 | 137 | CMG | ----- | ----- | ----- | 314.5 | 96 | CMG | |
| 304.4 55 MNK | 325.4 | 102 | CMG | ----- | ----- | ----- | 132262 | RR | UMa | 317.5 | 96 | SEN | |
| 304.5 55 WMB | ----- | ----- | ----- | 123961 | S | UMa | type Mira | | | 324.5 | 98 | CMG | |
| ----- | 123160 | T | UMa | type Mira | | | | | | 324.5 | 98 | SEN | |
| 103769 R UMa | type Mira | | | | | | 314.5 | 101 | CMG | 335.5 | 94 | SEN | |
| type Mira | | | | 288.4 | 90 | MNK | 324.5 | 101 | CMG | 348.5 | 94 | SEN | |
| | 324.4 | 134 | CMG | 288.5 | 94 | WMB | 365.4 | 113 | FJH | 370.4 | 91 | FJH | |
| 314.4 116 CMG | 325.4 | 133 | FJH | 296.5 | 86 | MNK | 388.4 | 127 | FJH | 381.5 | : | 90 | |
| 314.4 119 FJH | 325.5 | 132 | BMU | 297.5 | 82 | WMB | 393.3 | 127 | CMG | 390.4 | 87 | SEN | |
| 324.4 112 CMG | 333.5 | 132 | FJH | 314.4 | 84 | CMG | ----- | ----- | ----- | 390.4 | 91 | BMU | |
| 325.5 113 BMU | 348.4 | 127 | FJH | 316.4 | 89 | KKP | 1327-06 | S | Vir | 390.4 | 91 | CMG | |
| 372.5 74 BMU | 352.4 | :126 | SEN | 317.4 | 84 | SEN | type Mira | | | 400.3 | 90 | CMG | |
| 382.4 73 BMU | 365.4 | 115 | FJH | 324.4 | 81 | CMG | | | | 400.5 | 89 | BMU | |
| 390.4 71 CMG | 370.4 | 108 | BMU | 324.4 | 82 | KKP | 314.4 | 73 | CMG | 405.4 | 89 | SEN | |
| 390.4 72 BMU | 373.4 | 102 | FJH | 324.4 | 83 | BMU | 324.4 | 72 | CMG | | | | |
| 400.3 72 CMG | 381.5 | 95 | SEN | 324.4 | 83 | SEN | 325.4 | 69 | BMU | | | | |

| | | | | | | | | | | | | | | |
|-----------|-------|-------|-----------|-------|--------|-----------|-------|--------|-----------|-------|--------|-----------|-------|--------|
| 391.4 | 93 | FJH | 403.4 | 128 | CMG | 393.4 | 95 | BMU | 390.4 | 127 | SEN | 390.4 | 115 | FJH |
| 393.4 | 88 | NWL | ----- | ----- | ----- | 400.4 | 84 | NWL | 400.4 | 122 | CMG | 400.4 | 105 | FJH |
| 393.4 | 91 | BMU | 160625 | | RU Her | 400.4 | 88 | BMU | 400.5 | 127 | BMU | 400.4 | 107 | CMG |
| 400.3 | 91 | CMG | type Mira | | | 400.4 | 89 | CMG | 405.4 | 120 | SEN | ----- | ----- | ----- |
| 400.4 | 92 | BMU | | | | 405.3 | 85 | LJO | ----- | ----- | ----- | 165722 | | SY Her |
| 400.4 | 93 | NWL | 314.5 | 93 | CMG | ----- | ----- | ----- | 163414 | | AS Her | ----- | ----- | ----- |
| ----- | ----- | ----- | 324.5 | 92 | CMG | 162807A | | SS Her | type Mira | | | 314.5 | 115 | CMG |
| 155229 | | Z CrB | 325.5 | 89 | BMU | type Mira | | | | | | 324.5 | 102 | BMU |
| type Mira | | | 325.5 | 91 | NWL | | | | 317.4 | 133 | FJH | 324.5 | 102 | CMG |
| | | | 365.4 | 97 | FJH | 314.5 | 118 | CMG | 324.5 | 132 | CMG | 324.5 | 102 | CMG |
| 314.4 | 120 | FJH | 372.4 | 100 | FJH | 324.5 | 112 | CMG | 325.4 | 135 | FJH | 325.6 | 98 | NWL |
| 314.4 | 122 | CMG | 372.5 | 102 | BMU | 390.4 | 110 | BMU | 349.5 | 124 | FJH | 335.5 | 91 | NWL |
| 324.4 | 127 | CMG | 387.4 | 105 | BMU | 390.4 | 110 | CMG | 367.4 | 115 | FJH | 365.4 | 90 | FJH |
| 325.4 | 126 | FJH | 390.4 | 105 | FJH | 403.4 | 124 | CMG | 375.4 | 113 | FJH | 367.4 | 95 | KPG |
| 333.4 | 129 | FJH | 390.4 | 109 | CMG | 405.4 | 123 | BMU | 389.4 | 109 | FJH | 372.4 | 95 | FJH |
| 347.4 | 131 | FJH | 400.4 | 106 | BMU | ----- | ----- | ----- | 390.4 | 108 | CMG | 372.5 | 98 | BMU |
| 365.4 | 137 | FJH | 400.4 | 107 | CMG | 163137 | | W Her | 400.4 | 106 | CMG | 377.4 | 101 | KPG |
| 374.4 | 138 | FJH | ----- | ----- | ----- | type Mira | | | 400.4 | 107 | FJH | 380.5 | 102 | NWL |
| 383.4 | 139 | FJH | 161138 | | W CrB | | | | ----- | ----- | ----- | 382.4 | 102 | BMU |
| ----- | ----- | ----- | type Mira | | | 314.5 | 100 | CMG | 164012 | | UV Her | 389.4 | 108 | FJH |
| 155526 | | T CrB | 314.4 | 94 | CMG | 324.5 | 104 | BMU | type Mira | | | 389.4 | 109 | BMU |
| type Nd | | | 324.4 | 99 | CMG | 324.5 | 106 | CMG | 317.4 | 129 | FJH | 390.4 | 111 | CMG |
| | | | 324.5 | 99 | BMU | 325.5 | 104 | NWL | 349.5 | 121 | FJH | 400.4 | 116 | BMU |
| 324.5 | 103 | BMU | 324.5 | 102 | NWL | 326.4 | 101 | LJO | 365.4 | 109 | FJH | 400.4 | 118 | FJH |
| 355.5 | 101 | BMU | 325.5 | 102 | NWL | 335.4 | 104 | LJO | 373.4 | 100 | FJH | 400.4 | 119 | CMG |
| 370.5 | 103 | BMU | 325.4 | 100 | LJO | 335.5 | 103 | NWL | 389.4 | 93 | FJH | 405.4 | 120 | BMU |
| 372.5 | 102 | BMU | 335.4 | 104 | LJO | 342.5 | 109 | FJH | 393.3 | 89 | CMG | ----- | ----- | ----- |
| 376.4 | 105 | FJH | 348.4 | 110 | LJO | 348.4 | 110 | LJO | 400.4 | 90 | FJH | 1702-15 | | R Oph |
| 376.5 | 101 | BMU | 348.4 | 114 | FJH | 352.4 | 112 | NWL | 403.4 | 91 | CMG | type Mira | | |
| 382.4 | 103 | BMU | 367.4 | 119 | KPG | 367.4 | 116 | FJH | ----- | ----- | ----- | 324.5 | 88 | CMG |
| 387.4 | 104 | BMU | 368.5 | 125 | FJH | 367.4 | 117 | KPG | 164715 | | S Her | 325.4 | 85 | BMU |
| 393.4 | 105 | BMU | 376.5 | 124 | BMU | 372.5 | 118 | BMU | type Mira | | | 405.3 | 105 | CMG |
| 400.4 | 105 | FJH | 380.4 | 129 | NWL | 376.4 | 120 | FJH | ----- | ----- | ----- | ----- | ----- | ----- |
| 400.4 | 106 | BMU | 387.4 | 130 | BMU | 377.3 | 119 | LJO | 314.5 | 122 | CMG | 170217 | | VY Her |
| 405.3 | 105 | BMU | 388.4 | 131 | FJH | 377.4 | 120 | KPG | 324.5 | 126 | CMG | type Mira | | |
| ----- | ----- | ----- | 390.4 | 133 | CMG | 380.5 | 119 | NWL | 342.5 | 130 | FJH | 314.5 | 113 | CMG |
| 160118 | | R Her | 403.4 | 141 | CMG | 390.4 | 123 | BMU | 349.5 | 138 | FJH | 317.4 | 109 | FJH |
| type Mira | | | ----- | ----- | ----- | 390.4 | 126 | FJH | 364.4 | 138 | FJH | 324.5 | 102 | CMG |
| | | | 1616-07 | | W Oph | 390.4 | 127 | CMG | 372.5 | 135 | FJH | 342.5 | 109 | FJH |
| 314.5 | 93 | CMG | type Mira | | | 400.4 | 128 | FJH | 383.4 | 131 | FJH | 350.4 | 109 | FJH |
| 324.5 | 98 | CMG | | | | 400.4 | 136 | CMG | 390.4 | 129 | CMG | 372.5 | 125 | FJH |
| 325.5 | 98 | NWL | 324.5 | 117 | CMG | ----- | ----- | ----- | 391.4 | 128 | BMU | 387.4 | 130 | FJH |
| 335.5 | 105 | NWL | 325.4 | 118 | BMU | 163172 | | R UMi | 400.3 | 117 | FJH | 390.4 | 126 | CMG |
| 342.4 | 106 | FJH | ----- | ----- | ----- | type SRa | | | 400.4 | 120 | CMG | 393.4 | 135 | FJH |
| 352.5 | 111 | NWL | 162119 | | U Her | | | | 405.4 | 112 | BMU | ----- | ----- | ----- |
| 365.4 | 117 | FJH | type Mira | | | 391.4 | 100 | BMU | ----- | ----- | ----- | 170627A | | RT Her |
| 372.5 | 120 | FJH | | | | ----- | ----- | ----- | 1652-02 | | SS Oph | type Mira | | |
| 380.4 | 129 | NWL | 314.5 | 114 | CMG | 163266 | | R Dra | type Mira | | | 314.5 | 134 | CMG |
| 383.4 | 128 | FJH | 324.5 | 112 | CMG | type Mira | | | 324.5 | 124 | CMG | 324.5 | 139 | CMG |
| 390.4 | 130 | FJH | 324.5 | 114 | BMU | 288.5 | 83 | MNK | 377.4 | 95 | BMU | 325.4 | 145 | FJH |
| 390.4 | 134 | CMG | 326.4 | 112 | LJO | 288.5 | 84 | WMB | 390.4 | 90 | BMU | 333.5 | 146 | FJH |
| 403.4 | 137 | CMG | 326.5 | 111 | NWL | 296.5 | 90 | MNK | 390.4 | 91 | CMG | 354.5 | 148 | FJH |
| ----- | ----- | ----- | 335.4 | 110 | LJO | 297.5 | 93 | WMB | 403.4 | 82 | BMU | 364.4 | 149 | FJH |
| 160210 | | U Ser | 342.4 | 107 | FJH | 314.5 | 106 | CMG | 403.4 | 87 | CMG | 375.4 | 154 | FJH |
| type Mira | | | 348.4 | 106 | LJO | 317.5 | 105 | SEN | ----- | ----- | ----- | 383.4 | 149 | FJH |
| | | | 365.4 | 105 | FJH | 324.5 | 108 | SEN | 165631 | | RV Her | 393.4 | 147 | CMG |
| 314.4 | 86 | CMG | 367.4 | 105 | KPG | 324.5 | 111 | CMG | type Mira | | | 393.4 | 147 | FJH |
| 324.5 | 87 | CMG | 372.5 | 101 | BMU | 325.5 | 108 | SCL | 351.5 | 156 | FJH | ----- | ----- | ----- |
| 325.5 | 98 | NWL | 373.4 | 104 | FJH | 335.5 | 115 | SEN | 364.4 | 142 | FJH | 171401 | | Z Oph |
| 342.5 | 86 | NWL | 377.3 | 103 | LJO | 347.5 | 119 | FJH | 367.4 | 139 | KPG | type Mira | | |
| 350.4 | 96 | FJH | 377.4 | 101 | KPG | 352.5 | 122 | SEN | 372.5 | 136 | FJH | 314.5 | 121 | CMG |
| 364.4 | 102 | FJH | 380.4 | 101 | NWL | 365.4 | 126 | FJH | 377.4 | 131 | KPG | 324.5 | 125 | CMG |
| 372.4 | 105 | FJH | 384.4 | 99 | BMU | 376.4 | 129 | FJH | 383.4 | 123 | FJH | 325.4 | 127 | BMU |
| 380.4 | 108 | NWL | 388.4 | 97 | NWL | 376.5 | 127 | BMU | 390.4 | 112 | CMG | 390.4 | 134 | BMU |
| 390.4 | 118 | CMG | 390.4 | 97 | CMG | 381.5 | 125 | SEN | ----- | ----- | ----- | ----- | ----- | ----- |
| 391.4 | 116 | FJH | 390.4 | 97 | FJH | 390.4 | 122 | FJH | ----- | ----- | ----- | ----- | ----- | ----- |
| 391.4 | 122 | BMU | 391.3 | 93 | LJO | 390.4 | 122 | FJH | ----- | ----- | ----- | ----- | ----- | ----- |
| 400.4 | 121 | FJH | 393.4 | 92 | NWL | 390.4 | 126 | BMU | ----- | ----- | ----- | ----- | ----- | ----- |

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|---------|-----|-----|---------------|-------|-----|---------------|-------|-----|---------------|---------------|-----|----------------|---------------|-----|--|
| 390.4 | 135 | CMG | ----- | 400.3 | 110 | FJH | 324.5 | 101 | CMG | | | | | | |
| 403.4 | 131 | CMG | 175519 RY Her | 400.4 | 107 | BMU | 326.4 | 99 | LJO | 325.5 | 138 | CMG | | | |
| | | | type Mira | 400.4 | 108 | CMG | 326.5 | 98 | NWL | 333.5 | 139 | FJH | | | |
| 171723 | RS | Her | | 405.3 | 100 | LJO | 335.4 | 106 | LJO | 354.5 | 135 | FJH | | | |
| | | | type Mira | | | | 342.5 | 106 | FJH | 374.4 | 122 | FJH | | | |
| | | | 314.5 | 134 | CMG | ----- | 348.4 | 114 | KKP | 393.3 | 118 | CMG | | | |
| | | | 324.5 | 138 | CMG | 180565 W Dra | 348.4 | 118 | LJO | 400.4 | 107 | FJH | | | |
| 314.5 | 102 | CMG | 325.5 | 137 | FJH | type Mira | 352.5 | 117 | NWL | 400.4 | 112 | CMG | | | |
| 324.5 | 95 | BMU | 333.5 | 138 | FJH | | 367.5 | 120 | KPG | ----- | | | | | |
| 324.5 | 95 | CMG | 347.5 | 138 | FJH | 316.4 | 130 | FJH | 369.4 | 125 | FJH | 182224 SV Her | | | |
| 325.6 | 95 | NWL | 352.4 | 123 | NWL | 324.5 | 136 | CMG | 376.5 | 122 | BMU | type Mira | | | |
| 326.4 | 91 | LJO | 364.4 | 137 | FJH | 333.5 | 138 | FJH | 377.4 | 123 | KPG | | | | |
| 335.4 | 89 | LJO | 367.4 | 133 | KPG | 350.4 | 143 | FJH | 380.4 | 117 | KKP | 314.5 | 112 | CMG | |
| 335.5 | 92 | NWL | 372.5 | 132 | FJH | 366.4 | 147 | FJH | 380.5 | 119 | NWL | 324.5 | 115 | CMG | |
| 348.4 | 86 | LJO | 377.4 | 123 | KPG | 381.5 | 151 | FJH | 381.4 | 120 | LJO | 333.5 | 120 | FJH | |
| 365.4 | 79 | FJH | 380.5 | 119 | NWL | 393.5 | 149 | FJH | 383.4 | 126 | FJH | 348.4 | 132 | FJH | |
| 367.4 | 83 | KPG | 383.4 | 118 | FJH | ----- | | | 387.3 | 113 | KKP | 366.5 | 139 | FJH | |
| 372.5 | 82 | BMU | 390.4 | 112 | FJH | 180666 X Dra | | | 388.4 | 120 | BMU | 372.5 | 139 | FJH | |
| 377.3 | 80 | LJO | 390.4 | 113 | CMG | type Mira | | | 390.4 | 118 | LJO | 383.4 | 142 | FJH | |
| 377.4 | 83 | KPG | 391.4 | 113 | BMU | | | | 390.4 | 122 | FJH | 393.4 | 147 | FJH | |
| 380.5 | 82 | NWL | 400.4 | 105 | CMG | 316.4 | 138 | FJH | 391.4 | 123 | CMG | ----- | | | |
| 382.4 | 81 | BMU | 400.4 | 106 | FJH | 324.5 | 135 | CMG | 403.4 | 107 | BMU | 182306 T Ser | | | |
| 388.4 | 78 | NWL | 405.4 | 101 | BMU | 366.4 | 155 | FJH | 403.4 | 109 | KKP | type Mira | | | |
| 390.4 | 83 | BMU | ----- | | | 381.5 | 158 | FJH | 403.4 | 112 | CMG | | | | |
| 390.4 | 84 | FJH | 175654 V Dra | | | ----- | | | 405.3 | 103 | LJO | 324.5 | 143 | CMG | |
| 390.4 | 85 | CMG | type Mira | | | 181031 TV Her | | | ----- | | | 325.5 | 145 | FJH | |
| 391.3 | 78 | LJO | | | | type Mira | | | 181306 BC Oph | | | 354.5 | 149 | FJH | |
| 400.4 | 82 | NWL | 314.5 | 118 | CMG | | | | type Mira | | | 367.5 | 149 | FJH | |
| 400.4 | 84 | BMU | 324.5 | 121 | CMG | 317.5 | 138 | FJH | | | | 380.4 | 148 | FJH | |
| 400.4 | 85 | CMG | 347.5 | 133 | FJH | 325.4 | 135 | CMG | | | | 393.4 | 144 | CMG | |
| 405.3 | 85 | LJO | 366.4 | 136 | FJH | 325.4 | 137 | FJH | 386.5 | 149 | FJH | ----- | | | |
| ----- | | | 374.4 | 138 | FJH | 333.5 | 137 | FJH | ----- | | | ----- | | | |
| 172809A | RU | Oph | 386.5 | 140 | FJH | 347.4 | 131 | FJH | 181406 AY Oph | | | 183138 LL Lyr | | | |
| | | | type Mira | 391.4 | 142 | CMG | 352.5 | 117 | NWL | type Mira | | type UG | | | |
| | | | ----- | | | 365.4 | 106 | FJH | | | | | | | |
| 314.5 | 106 | CMG | 175718 WZ Her | | | 367.5 | 104 | KPG | 325.5 | <149 | FJH | 367.49 | <155 | FJH | |
| 324.5 | 90 | CMG | type Mira | | | 373.4 | 105 | FJH | 386.4 | 111 | FJH | 381.43 | <155 | FJH | |
| 325.4 | 96 | BMU | | | | 377.4 | 96 | KPG | ----- | | | 393.38 | <155 | FJH | |
| 354.5 | 92 | FJH | 325.4 | 119 | CMG | 380.5 | 97 | NWL | 181730 TV Lyr | | | ----- | | | |
| 365.4 | 99 | FJH | ----- | | | 384.4 | 96 | BMU | type Mira | | | 183149A SV Dra | | | |
| 373.4 | 106 | FJH | 180531 T Her | | | 388.4 | 96 | NWL | | | | type Mira | | | |
| 377.4 | 107 | KPG | type Mira | | | 389.4 | 102 | FJH | 325.4 | 109 | CMG | | | | |
| 377.4 | 110 | BMU | | | | 390.4 | 98 | CMG | 352.5 | 144 | FJH | 314.5 | 101 | CMG | |
| 386.4 | 118 | FJH | 295.5 | 83 | MNK | 393.4 | 96 | BMU | 366.5 | 152 | FJH | 324.5 | 105 | CMG | |
| 390.4 | 118 | BMU | 295.5 | 83 | WMB | 400.3 | 102 | FJH | 383.4 | 148 | FJH | 350.4 | 117 | FJH | |
| 390.4 | 118 | CMG | 304.4 | 83 | MNK | 400.4 | 96 | BMU | 393.4 | 143 | CMG | 369.4 | 125 | FJH | |
| 400.4 | 124 | FJH | 304.5 | 83 | WMB | 400.4 | 99 | CMG | ----- | | | 388.4 | 134 | FJH | |
| 403.4 | 129 | CMG | 314.5 | 91 | CMG | ----- | | | 181828 AZ Her | | | 391.4 | 134 | CMG | |
| ----- | | | 324.5 | 99 | BMU | 181103 RY Oph | | | type Mira | | | 400.4 | 137 | CMG | |
| 1744-06 | RS | Oph | 324.5 | 101 | CMG | type Mira | | | | | | 400.4 | 137 | FJH | |
| | | | type Nd | 325.4 | 97 | KKP | | | 317.5 | 117 | FJH | ----- | | | |
| | | | | 326.4 | 106 | LJO | 314.5 | 87 | CMG | 325.4 | 111 | CMG | 183225 RZ Her | | |
| 325.5 | 113 | BMU | 326.5 | 96 | NWL | 324.5 | 93 | CMG | 349.5 | 127 | FJH | type Mira | | | |
| ----- | | | 335.4 | 105 | LJO | 325.5 | 93 | BMU | 388.4 | 148 | FJH | | | | |
| 175111 | RT | Oph | 342.5 | 119 | FJH | 390.4 | 129 | CMG | 393.4 | 149 | FJH | 366.5 | 149 | FJH | |
| | | | type Mira | 348.4 | 116 | LJO | 403.4 | 118 | CMG | ----- | | 375.4 | 146 | FJH | |
| | | | | 348.4 | 123 | FJH | ----- | | | 182039 TW Lyr | | 383.4 | 142 | FJH | |
| 324.5 | 127 | CMG | 348.4 | 117 | KKP | 181136 W Lyr | | | type Mira | | | 390.4 | 135 | CMG | |
| 377.4 | 99 | KPG | 352.5 | 120 | NWL | type Mira | | | | | | 393.4 | 140 | FJH | |
| 390.4 | 102 | CMG | 365.4 | 127 | FJH | | | | 314.4 | 130 | FJH | 403.3 | 132 | FJH | |
| 400.4 | 106 | CMG | 367.5 | 122 | KPG | 288.4 | 82 | MNK | 326.4 | 137 | FJH | 403.4 | 135 | CMG | |
| ----- | | | 372.5 | 127 | FJH | 288.5 | 82 | WMB | 347.5 | 140 | FJH | ----- | | | |
| 175458A | T | Dra | 377.4 | 126 | KPG | 295.5 | 84 | MNK | 364.4 | 148 | FJH | 183308 X Oph | | | |
| | | | type Mira | 380.5 | 128 | NWL | 295.5 | 84 | WMB | 375.4 | 150 | FJH | type Mira | | |
| | | | | 383.4 | 123 | FJH | 304.5 | 90 | WMB | 383.4 | 149 | FJH | | | |
| 314.5 | 104 | CMG | 390.4 | 115 | LJO | 304.5 | 91 | MNK | 393.4 | 150 | FJH | 384.4 | 73 | BMU | |
| 324.5 | 103 | CMG | 390.4 | 119 | CMG | 314.4 | 96 | FJH | ----- | | | 403.4 | 72 | BMU | |
| 391.4 | 104 | CMG | 390.4 | 122 | FJH | 314.5 | 93 | CMG | 182172 RT Dra | | | | | | |
| 400.4 | 105 | CMG | 391.4 | 118 | BMU | 324.5 | 101 | BMU | type Mira | | | | | | |

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|---|---|--|--|---|
| 183922 AE Her type Mira | 356.43 149 FJH 367.49 158 FJH 368.53:161 FJH 380.38 132 FJH | 372.5 75 BMU 384.4 65 BMU 388.4 64 NWL 390.4 63 BMU | 190941 AU Lyr type Mira | 192150 CH Cyg type Z And |
| 317.5 115 FJH 342.5 103 FJH 350.4 100 FJH 367.4 104 FJH 376.4 111 FJH 389.4 113 FJH 400.4 118 FJH | 381.43 132 FJH 382.37 134 FJH 383.37 142 FJH 386.47<156 FJH 393.37 134 FJH 185032 RX Lyr type Mira | 391.4 63 CMG 400.4 63 BMU 403.4 61 CMG ----- 190527 TY Lyr type Mira | 314.4 120 FJH 314.5 122 CMG 324.5 114 CMG 326.4 116 FJH 342.5 110 FJH 349.5 111 FJH 365.4 115 FJH 367.5 109 KPG 372.5 114 FJH 377.4 114 KPG | 324.5 88 BMU 325.4 88 CMG 370.4 87 BMU 376.4 87 BMU 382.4 86 BMU 388.4 86 BMU 400.4 85 BMU 403.4 84 CMG |
| 184134 RY Lyr type Mira | 314.4 125 FJH 324.5 123 CMG 326.4 124 FJH 342.5 124 FJH 349.5 127 FJH 366.4 132 FJH 367.5 131 KPG 372.5 137 FJH 383.4 138 FJH 390.4 138 FJH 393.4 140 CMG | 333.5 143 FJH 347.5 136 FJH 368.5 114 FJH 390.4 105 FJH 393.3 105 CMG 400.4 104 FJH 403.4 104 CMG ----- 190529A V Lyr type Mira | 372.5 114 FJH 377.4 114 KPG 390.4 120 FJH 391.4 117 CMG 400.4 121 FJH 403.4 120 CMG ----- 190967 U Dra type Mira | 192201 TU Aql type Mira 325.5 <140 CMG ----- 192928 TY Cyg type Mira |
| 314.4 117 FJH 314.5 115 CMG 324.5 116 CMG 326.4 119 FJH 326.5 115 NWL 342.5 122 FJH 349.5 124 FJH 352.5 :123 NWL 366.4 129 FJH 367.5 134 KPG 372.5 131 FJH 380.5 :132 NWL 382.4 136 FJH 391.4 138 CMG 393.4 138 FJH | 185634 Z Lyr type Mira 314.4 106 FJH 314.5 103 CMG 324.5 108 CMG 326.4 112 FJH 342.5 118 FJH 349.5 121 FJH 366.4 132 FJH 367.5 129 KPG 374.4 135 FJH 377.4 :136 KPG 382.4 137 FJH 393.4 142 CMG 393.4 143 FJH | 354.5 148 FJH 364.4 145 FJH 375.4 142 FJH 383.4 142 FJH 393.4 137 FJH 405.4 128 FJH ----- 190529B VZ Lyr type Mira | 316.4 136 FJH 324.5 135 CMG 333.5 137 FJH 350.4 137 FJH 374.4 139 FJH 386.5 137 FJH 391.4 135 CMG 400.4 136 CMG 400.4 137 FJH ----- 1910-07 W Aql type Mira | 325.5 :150 FJH 354.5 144 FJH 366.4 142 FJH 386.5 128 FJH 391.5 124 CMG 400.4 120 FJH 403.4 118 CMG ----- 193311 RT Aql type Mira |
| 184137 AY Lyr type UGSU | 326.4 112 FJH 342.5 118 FJH 349.5 121 FJH 366.4 132 FJH 367.5 129 KPG 374.4 135 FJH 377.4 :136 KPG 382.4 137 FJH 393.4 142 CMG 393.4 143 FJH | 375.4 :146 FJH 383.4 141 FJH 393.4 139 FJH 405.4 130 FJH ----- 190627A UV Lyr type Mira | 325.5 88 CMG 379.4 84 FJH 391.4 84 FJH 391.4 87 CMG 393.4 87 BMU 403.4 88 BMU 403.4 88 CMG ----- 191046 SS Lyr type Mira | 325.5 119 CMG 326.5 124 FJH 347.4 129 FJH 364.4 136 FJH 367.5 128 KPG 375.4 136 FJH 377.4 130 KPG 386.4 137 FJH 391.4 139 CMG 403.3 138 FJH 403.4 142 CMG |
| 1842-05 R Sct type RV | 352.5 140 FJH 366.4 136 FJH 367.5 136 KPG 372.5 131 FJH 377.4 127 KPG 390.4 117 FJH 391.4 119 CMG 400.4 115 FJH 403.4 115 CMG | 325.5 149 FJH 366.4 148 FJH 381.4 145 FJH 391.4 136 CMG 393.4 136 FJH ----- 190925 S Lyr type Mira | 314.4 130 FJH 325.4 135 CMG 325.5 132 FJH 348.5 137 FJH 381.4 143 FJH ----- 191637 U Lyr type Mira | 193411 SV Aql type Mira 403.4 135 CMG ----- 193428 BG Cyg type Mira |
| 393.4 57 BMU 403.4 58 BMU 405.3 59 CMG | 393.4 143 FJH 399.4 119 CMG 400.4 115 FJH 403.4 115 CMG | 325.4 131 CMG 393.4 :141 CMG ----- 190643 ST Lyr type Mira | 403.4 88 CMG 403.4 88 CMG ----- 191046 SS Lyr type Mira | 314.5 117 CMG 324.5 118 CMG 391.5 119 CMG 403.4 118 CMG |
| 184243 RW Lyr type Mira | 185947 WZ Lyr type Mira | 314.5 118 CMG 324.5 122 CMG 391.4 134 CMG ----- 190933A RS Lyr type Mira | 314.5 123 CMG 324.5 124 CMG 391.4 119 CMG 403.4 118 CMG ----- 191831 AN Lyr type Mira | 193449 R Cyg type Mira |
| 366.5 :156 FJH 381.4 :161 FJH | 314.4 141 FJH 325.5 142 FJH 348.5 147 FJH 366.4 149 FJH 381.4 148 FJH | 325.5 :151 FJH 366.5 148 FJH 380.4 148 FJH 393.4 137 FJH 393.4 140 CMG ----- | 314.4 128 FJH 326.5 132 FJH 348.5 139 FJH 366.5 146 FJH 375.4 144 FJH 393.4 143 FJH | 314.4 112 FJH 314.5 116 CMG 324.5 117 BMU 324.5 117 CMG 342.5 125 FJH 366.4 132 FJH 367.5 132 KPG 369.4 131 LJO |
| 184826 CY Lyr type UGSS | 190108 R Aql type Mira | 325.5 96 CMG | 314.4 128 FJH 326.5 132 FJH 348.5 139 FJH 366.5 146 FJH 375.4 144 FJH 393.4 143 FJH | |

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|--------|-------|-------|---------|-------|-------|--------|-------|-------|-----------|-------|-------|---------|-------|-------|
| 376.4 | 127 | BMU | 403.3 | 92 | LJO | 403.4 | 116 | CMG | type Mira | 403.4 | 137 | CMG | | |
| 377.4 | 132 | KPG | 403.4 | 97 | CMG | ----- | ----- | ----- | ----- | 405.4 | 133 | FJH | | |
| 381.4 | 134 | FJH | 403.5 | 95 | FJH | 195533 | V482 | Cyg | 314.5 | 119 | FJH | ----- | | |
| 391.5 | 136 | CMG | ----- | ----- | ----- | type | RCB | ----- | 324.5 | 113 | CMG | 201130 | SX | Cyg |
| 393.4 | 134 | BMU | 194604 | X | Aql | ----- | ----- | ----- | 342.5 | 116 | FJH | type | Mira | ----- |
| 395.5 | 134 | FJH | type | Mira | ----- | ----- | ----- | ----- | 369.4 | 116 | FJH | ----- | ----- | ----- |
| 403.4 | :138 | CMG | ----- | ----- | ----- | ----- | ----- | ----- | 391.5 | 118 | CMG | 325.4 | 134 | CMG |
| ----- | ----- | ----- | 325.5 | 139 | CMG | 195551 | CM | Cyg | 391.5 | 124 | FJH | 347.5 | 112 | FJH |
| 193509 | RV | Aql | 325.5 | 139 | FJH | type | Mira | ----- | 403.4 | 126 | CMG | 368.5 | 101 | LJO |
| type | Mira | ----- | 351.4 | 125 | FJH | ----- | ----- | ----- | 403.5 | 127 | FJH | 369.4 | 100 | FJH |
| ----- | ----- | ----- | 364.4 | 119 | FJH | 314.4 | 120 | FJH | ----- | ----- | ----- | 377.5 | 106 | KPG |
| 317.5 | 131 | FJH | 367.5 | 109 | KPG | 314.5 | 121 | CMG | 2005-14 | R | Cap | 381.4 | 99 | FJH |
| 325.5 | 133 | CMG | 375.4 | 106 | FJH | 324.5 | 113 | CMG | type | Mira | ----- | 381.4 | 100 | LJO |
| 325.5 | 135 | FJH | 377.4 | 109 | BMU | 342.5 | 104 | FJH | ----- | ----- | ----- | 391.5 | 103 | FJH |
| 352.5 | 144 | FJH | 377.5 | 104 | KPG | 365.4 | 105 | FJH | 327.5 | 108 | CMG | 391.5 | 107 | CMG |
| 364.4 | 141 | FJH | 390.4 | 99 | BMU | 381.4 | 105 | FJH | ----- | ----- | ----- | 403.4 | 109 | CMG |
| 375.4 | 137 | FJH | 391.4 | 99 | CMG | 391.5 | 105 | FJH | 200715A | S | Aql | ----- | ----- | ----- |
| 386.4 | 129 | FJH | 391.4 | 104 | FJH | 391.5 | 106 | CMG | type | SRa | ----- | 201437B | WX | Cyg |
| 391.4 | 127 | CMG | 403.4 | 99 | CMG | 403.4 | 109 | CMG | ----- | ----- | ----- | type | Mira | ----- |
| 403.4 | 120 | CMG | 403.4 | 103 | BMU | 403.5 | 106 | FJH | 393.4 | 95 | BMU | ----- | ----- | ----- |
| 403.4 | 120 | FJH | ----- | ----- | ----- | ----- | ----- | ----- | 405.4 | 96 | BMU | 314.5 | 116 | CMG |
| ----- | ----- | ----- | 194632 | Chi | Cyg | 195818 | TX | Sge | ----- | ----- | ----- | 324.5 | 115 | CMG |
| 193954 | V369 | Cyg | type | Mira | type | Mira | ----- | ----- | 200812 | RU | Aql | 326.5 | 111 | SEN |
| type | Mira | ----- | ----- | ----- | ----- | ----- | ----- | ----- | type | Mira | ----- | 352.5 | 110 | SEN |
| ----- | ----- | ----- | 325.4 | 138 | CMG | 325.5 | <150 | FJH | ----- | ----- | ----- | 369.5 | :109 | SEN |
| 324.5 | 113 | CMG | 325.5 | 137 | FJH | 347.5 | 131 | FJH | 325.5 | 136 | CMG | 388.5 | 108 | SEN |
| 391.5 | 127 | CMG | 342.5 | 124 | FJH | 367.4 | 130 | FJH | 325.5 | 147 | FJH | 391.5 | 109 | CMG |
| 403.4 | 126 | CMG | 367.5 | 109 | KPG | 375.4 | 123 | FJH | 352.5 | 139 | FJH | 403.4 | 109 | CMG |
| ----- | ----- | ----- | 368.5 | 110 | LJO | 381.4 | 128 | FJH | 367.4 | 135 | FJH | 405.4 | 107 | SEN |
| 194048 | RT | Cyg | 369.4 | 107 | FJH | 400.4 | 128 | FJH | 380.4 | 126 | FJH | ----- | ----- | ----- |
| type | Mira | ----- | 370.5 | 108 | BMU | ----- | ----- | ----- | 390.5 | 109 | FJH | 201559 | CN | Cyg |
| ----- | ----- | ----- | 377.4 | 106 | BMU | 195849 | Z | Cyg | 391.4 | 109 | CMG | type | Mira | ----- |
| 314.5 | 94 | CMG | 377.4 | 106 | KPG | type | Mira | ----- | 393.4 | 107 | BMU | ----- | ----- | ----- |
| 324.5 | 102 | BMU | 379.5 | 106 | FJH | ----- | ----- | ----- | 403.4 | 97 | FJH | 314.4 | 120 | FJH |
| 324.5 | 105 | CMG | 388.4 | 104 | BMU | 314.5 | 108 | CMG | 403.4 | 100 | CMG | 314.5 | 122 | CMG |
| 342.5 | 116 | FJH | 390.4 | 98 | LJO | 324.5 | 112 | CMG | 405.4 | 99 | BMU | 317.5 | 114 | SEN |
| 366.4 | 120 | FJH | 390.4 | 102 | SCL | 326.6 | 109 | NWL | ----- | ----- | ----- | 324.5 | 117 | CMG |
| 367.5 | 113 | KPG | 391.5 | 99 | CMG | 367.5 | 125 | KPG | 2009-06 | Z | Aql | 324.6 | :110 | SEN |
| 369.4 | 116 | LJO | 391.5 | 101 | FJH | 369.4 | 130 | LJO | type | Mira | ----- | 335.5 | 104 | SEN |
| 376.4 | 112 | BMU | 400.4 | 98 | BMU | 376.4 | 130 | BMU | ----- | ----- | ----- | 348.5 | :97 | SEN |
| 377.4 | 112 | KPG | 401.5 | 95 | SCL | 377.4 | 128 | KPG | 327.5 | 140 | CMG | 369.4 | 97 | FJH |
| 379.6 | 116 | FJH | 403.3 | 94 | LJO | 390.4 | 128 | LJO | 377.4 | 98 | BMU | 369.5 | 96 | SEN |
| 388.4 | 102 | BMU | ----- | ----- | ----- | 391.5 | 133 | CMG | 379.4 | 93 | FJH | 388.5 | :100 | SEN |
| 390.4 | 105 | LJO | 195035V | 1819 | Cyg | 393.4 | 132 | BMU | 390.4 | 95 | BMU | 391.5 | 104 | CMG |
| 391.5 | 100 | CMG | type | Nb | ----- | 403.4 | 136 | CMG | 391.4 | 94 | FJH | 391.5 | 105 | FJH |
| 391.5 | 104 | FJH | ----- | ----- | ----- | ----- | ----- | ----- | 391.4 | 96 | CMG | 403.4 | 110 | CMG |
| 400.4 | 92 | BMU | 354.46 | 141 | FJH | 200212 | SY | Aql | 403.4 | 96 | CMG | 403.5 | 116 | FJH |
| 403.3 | 90 | LJO | 366.4 | 143 | FJH | type | Mira | ----- | 403.4 | 98 | BMU | 405.4 | 111 | SEN |
| 403.4 | 93 | CMG | 386.5 | 143 | FJH | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 403.5 | 92 | FJH | ----- | ----- | ----- | 325.5 | 120 | CMG | 200938 | RS | Cyg | 201621 | PU | Vul |
| ----- | ----- | ----- | 1952-02 | RR | Aql | 326.5 | 119 | FJH | type | SRa | ----- | type | NL | ----- |
| 194348 | TU | Cyg | type | Mira | ----- | 351.4 | 124 | FJH | 326.5 | 82 | SEN | 314.5 | 95 | FJH |
| type | Mira | ----- | ----- | ----- | ----- | 367.4 | 124 | FJH | 352.5 | 82 | SEN | 324.5 | 97 | BMU |
| ----- | ----- | ----- | 327.5 | 131 | CMG | 380.4 | 129 | FJH | 369.5 | 85 | SEN | 347.4 | 98 | FJH |
| 325.4 | 134 | CMG | 380.4 | 130 | FJH | 387.5 | 130 | FJH | 388.5 | 87 | SEN | 355.5 | 93 | BMU |
| 325.5 | 133 | FJH | 391.4 | 128 | CMG | 391.4 | 136 | CMG | 390.5 | 85 | NWL | 367.5 | 92 | KPG |
| 342.5 | 118 | FJH | 391.4 | 132 | FJH | 403.4 | 137 | CMG | 405.4 | :87 | SEN | 369.4 | 96 | FJH |
| 365.4 | 104 | FJH | 393.4 | 129 | BMU | ----- | ----- | ----- | ----- | ----- | ----- | 370.4 | 96 | BMU |
| 367.5 | 105 | KPG | 403.4 | 133 | CMG | 200250 | BU | Cyg | 201008 | R | Del | 374.4 | 95 | FJH |
| 369.4 | 105 | LJO | ----- | ----- | ----- | type | Mira | ----- | type | Mira | ----- | 376.4 | 94 | BMU |
| 376.4 | 98 | BMU | 1953-08 | RS | Aql | ----- | ----- | ----- | ----- | ----- | ----- | 381.4 | 97 | FJH |
| 377.4 | 100 | KPG | type | Mira | ----- | 314.4 | 115 | FJH | 325.5 | 114 | CMG | 382.4 | 97 | BMU |
| 379.6 | 100 | FJH | ----- | ----- | ----- | 324.5 | 112 | CMG | 351.4 | 120 | FJH | 385.4 | 96 | BMU |
| 388.4 | 95 | BMU | 327.5 | 115 | CMG | 342.5 | 114 | FJH | 364.4 | 121 | FJH | 388.4 | 96 | BMU |
| 390.4 | 95 | LJO | 368.4 | 128 | FJH | 369.4 | 129 | FJH | 378.4 | 127 | FJH | 391.5 | 99 | FJH |
| 391.5 | 93 | FJH | 380.4 | 129 | FJH | 386.5 | 145 | FJH | 386.4 | 128 | FJH | 393.4 | 95 | BMU |
| 391.5 | 96 | CMG | 391.4 | 124 | CMG | ----- | ----- | ----- | 391.4 | 133 | CMG | 400.4 | 97 | BMU |
| 400.4 | 92 | BMU | 391.4 | 124 | FJH | 200357 | S | Cyg | ----- | ----- | ----- | ----- | ----- | ----- |

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|-----------|-------|-------|-----------|-------|-------|-----------|-------|-------|-----------|-------|-------|-----------|-------|-------|
| 400.4 | 98 | FJH | 325.4 | 140 | CMG | 376.4 | 111 | BMU | 379.4 | 120 | FJH | | | |
| 405.4 | 96 | BMU | 370.5 | 128 | LJO | 377.4 | 112 | CMG | 365.5 | 77 | FJH | | | |
| ----- | ----- | ----- | 391.5 | 114 | CMG | 379.6 | 108 | FJH | 379.4 | 77 | FJH | | | |
| 201647 | U | Cyg | 403.4 | 113 | CMG | 384.4 | 111 | BMU | 390.4 | 76 | FJH | | | |
| type Mira | ----- | ----- | ----- | ----- | ----- | 391.5 | 111 | CMG | 390.4 | 79 | BMU | | | |
| | | | 202962 | BF | Cep | 391.5 | 111 | FJH | 393.4 | 78 | CMG | | | |
| 314.5 | 82 | CMG | type Mira | ----- | ----- | 393.4 | 111 | BMU | 403.4 | 79 | CMG | | | |
| 324.5 | 82 | CMG | | | | 403.4 | 112 | BMU | 403.4 | 80 | BMU | | | |
| 369.4 | 91 | FJH | 325.5 | 141 | FJH | 403.4 | 113 | CMG | ----- | ----- | 325.5 | 119 | FJH | |
| 376.4 | 91 | BMU | 367.4 | 146 | FJH | 403.5 | 110 | FJH | 205017 | X | Del | 364.5 | 109 | FJH |
| 379.6 | 96 | FJH | 382.4 | :152 | FJH | 405.3 | 105 | LJO | type Mira | ----- | ----- | 381.4 | 112 | FJH |
| 384.4 | 92 | BMU | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | 391.4 | 116 | FJH |
| 391.5 | 94 | CMG | 203513 | SS | Del | 2039-05 | Y | Aqr | 325.5 | 138 | CMG | 391.4 | 118 | CMG |
| 391.5 | 97 | FJH | type Mira | ----- | ----- | type Mira | ----- | ----- | 325.5 | :148 | FJH | 403.4 | 122 | CMG |
| 393.4 | 93 | BMU | | | | | | | 351.5 | 146 | FJH | ----- | ----- | ----- |
| 403.3 | 88 | LJO | 380.4 | :157 | FJH | 364.4 | 121 | FJH | 364.4 | 138 | FJH | 210812 | R | Equ |
| 403.4 | 94 | CMG | 386.5 | 153 | FJH | 379.4 | 122 | FJH | 367.5 | 137 | KPG | type Mira | ----- | ----- |
| 403.4 | 95 | BMU | ----- | ----- | ----- | 390.4 | 126 | FJH | 376.5 | 129 | BMU | ----- | ----- | ----- |
| 403.5 | 96 | FJH | 203537 | FF | Cyg | 393.4 | 132 | CMG | 377.4 | 131 | FJH | 325.5 | 89 | CMG |
| ----- | ----- | ----- | type Mira | ----- | ----- | 403.4 | 134 | CMG | 386.4 | 126 | FJH | 347.5 | 98 | FJH |
| 202227 | OU | Vul | | | | ----- | ----- | ----- | 388.4 | 125 | BMU | 364.4 | 109 | FJH |
| type Na | ----- | ----- | 314.5 | 112 | CMG | 203918 | ES | Del | 391.4 | 125 | CMG | 367.5 | 112 | KPG |
| | | | 324.5 | 108 | CMG | type Mira | ----- | ----- | 400.4 | 121 | BMU | 378.4 | 121 | FJH |
| 352.5 | :135 | SEN | 391.5 | 100 | CMG | | | | 403.4 | 120 | CMG | 391.4 | 124 | CMG |
| 354.46 | 134 | FJH | 403.4 | 99 | CMG | 326.5 | 128 | FJH | 405.4 | 119 | FJH | 391.4 | 126 | FJH |
| 381.5 | 135 | SEN | ----- | ----- | ----- | 351.4 | 130 | FJH | ----- | ----- | ----- | 403.4 | 126 | FJH |
| 393.44 | 135 | FJH | 203611 | Y | Del | 367.4 | 136 | FJH | 205030A | UX | Cyg | 403.4 | 130 | CMG |
| 405.36 | 135 | FJH | type Mira | ----- | ----- | 386.5 | 140 | FJH | type Mira | ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | | | | ----- | ----- | ----- | ----- | ----- | ----- | 210818 | AS | Peg |
| 202509 | RY | Del | 325.5 | :143 | CMG | 204016 | T | Del | 325.4 | 119 | CMG | type Mira | ----- | ----- |
| type Mira | ----- | ----- | 354.5 | 146 | FJH | type Mira | ----- | ----- | 391.5 | 131 | CMG | ----- | ----- | ----- |
| | | | 364.4 | :152 | FJH | | | | ----- | ----- | ----- | 325.5 | 114 | FJH |
| 325.5 | 147 | FJH | 378.4 | 150 | FJH | 325.4 | 102 | KKP | 205923A | R | Vul | 347.5 | 128 | FJH |
| 380.4 | :155 | FJH | 387.5 | 137 | FJH | 325.5 | 98 | CMG | type Mira | ----- | ----- | 365.5 | 143 | FJH |
| ----- | ----- | ----- | 391.4 | 132 | CMG | 326.5 | 105 | FJH | ----- | ----- | ----- | 378.4 | 148 | FJH |
| 202512 | RX | Del | 403.4 | 120 | CMG | 347.5 | 107 | FJH | 325.5 | 112 | CMG | 393.5 | 148 | FJH |
| type Mira | ----- | ----- | 405.4 | 118 | FJH | 364.4 | 113 | FJH | 368.5 | 80 | LJO | ----- | ----- | ----- |
| | | | ----- | ----- | ----- | 367.5 | 115 | KPG | 380.4 | 82 | LJO | 210868 | T | Cep |
| 325.5 | 129 | CMG | 203718 | HR | Del | 376.4 | 119 | FJH | 385.4 | 89 | BMU | type Mira | ----- | ----- |
| 326.5 | 126 | FJH | type Nb | ----- | ----- | 376.5 | 119 | BMU | 390.4 | 94 | LJO | ----- | ----- | ----- |
| 354.5 | 148 | FJH | | | | 386.4 | 121 | FJH | 391.4 | 95 | CMG | 288.4 | 83 | MNK |
| 364.4 | 150 | FJH | 367.4 | 120 | FJH | 388.4 | 124 | BMU | 403.4 | 97 | BMU | 288.5 | 81 | WMB |
| 378.4 | 152 | FJH | 393.4 | 119 | BMU | 391.4 | 127 | CMG | 403.4 | 103 | CMG | 295.5 | 79 | MNK |
| 386.5 | :155 | FJH | 393.4 | 120 | FJH | 403.3 | 127 | FJH | 405.4 | 114 | LJO | 295.5 | 79 | WMB |
| ----- | ----- | ----- | ----- | ----- | ----- | 403.4 | 129 | CMG | ----- | ----- | ----- | 304.4 | 68 | MNK |
| 202817 | Z | Del | 203816 | S | Del | ----- | ----- | ----- | 210129 | TW | Cyg | 304.5 | 70 | WMB |
| type Mira | ----- | ----- | type Mira | ----- | ----- | 2041-04 | W | Aqr | type Mira | ----- | ----- | 314.5 | 62 | CMG |
| | | | | | | type Mira | ----- | ----- | ----- | ----- | ----- | 324.5 | 59 | CMG |
| 317.5 | 142 | FJH | 325.5 | 111 | CMG | | | | 325.4 | 127 | CMG | 324.5 | 62 | BMU |
| 325.5 | 145 | CMG | 326.5 | 114 | FJH | 365.5 | 147 | FJH | 391.5 | 104 | CMG | 325.5 | 60 | SCL |
| 325.5 | 146 | FJH | 351.4 | 105 | FJH | 380.4 | 146 | FJH | 403.4 | 108 | CMG | 348.5 | 61 | SCL |
| 352.5 | :149 | FJH | 367.5 | 103 | KPG | 393.4 | 145 | CMG | ----- | ----- | ----- | 365.4 | 62 | SCL |
| 364.4 | :150 | FJH | 370.4 | 105 | FJH | ----- | ----- | ----- | 210382 | X | Cep | 369.4 | 65 | LJO |
| 378.4 | :151 | FJH | 377.4 | 98 | BMU | 204318 | V | Del | type Mira | ----- | ----- | 376.5 | 68 | BMU |
| 386.5 | :152 | FJH | 386.4 | 96 | FJH | type Mira | ----- | ----- | ----- | ----- | ----- | 387.4 | 72 | BMU |
| 391.4 | :147 | CMG | 390.4 | 95 | BMU | | | | 354.5 | 152 | FJH | 390.4 | 71 | SCL |
| ----- | ----- | ----- | 391.4 | 98 | CMG | 325.5 | 103 | CMG | 380.4 | :156 | FJH | 391.4 | 74 | CMG |
| 202918 | AG | Del | 403.4 | 92 | BMU | 326.5 | 106 | FJH | ----- | ----- | ----- | 400.4 | 73 | CMG |
| type Mira | ----- | ----- | 403.4 | 92 | CMG | 347.5 | 112 | FJH | 210405 | RR | Equ | 400.5 | 74 | BMU |
| | | | ----- | ----- | ----- | 364.4 | 121 | FJH | type Mira | ----- | ----- | 403.3 | 70 | SCL |
| 326.5 | 122 | FJH | 203847 | V | Cyg | 376.4 | 124 | FJH | | | | ----- | ----- | ----- |
| 351.4 | 141 | FJH | type Mira | ----- | ----- | 386.4 | 128 | FJH | 367.4 | :155 | FJH | 2109-03 | RR | Aqr |
| 364.4 | 156 | FJH | | | | 391.4 | 128 | CMG | 381.5 | :153 | FJH | type Mira | ----- | ----- |
| 380.4 | <160 | FJH | 314.5 | 125 | FJH | 403.3 | 132 | FJH | ----- | ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | 324.5 | 123 | CMG | 403.4 | 130 | CMG | 2105-04 | RS | Aqr | 364.4 | 104 | FJH |
| 202954 | ST | Cyg | 342.5 | 117 | FJH | ----- | ----- | ----- | type Mira | ----- | ----- | 379.4 | 99 | FJH |
| type Mira | ----- | ----- | 369.4 | 113 | FJH | 2044-05 | T | Aqr | ----- | ----- | ----- | 390.4 | 99 | FJH |
| | | | 370.5 | 105 | LJO | type Mira | ----- | ----- | 364.4 | 110 | FJH | 391.4 | 97 | BMU |

| | | | | | | | | | | | | | | |
|----------------|-------|-------|-----------|-------|-------|-----------|-------|-------|-----------|--------|-----------|-----------|-------|-------|
| 393.4 | 96 | CMG | 333.47 | 83 | FJH | 314.5 | 114 | CMG | ----- | ----- | | | | |
| 403.4 | 98 | BMU | 342.49 | 89 | FJH | 324.5 | 117 | CMG | 220714 | RS Peg | 223841 | R Lac | | |
| 403.4 | 99 | CMG | 347.48 | 112 | FJH | 347.5 | 126 | FJH | type Mira | | type Mira | | | |
| ----- | ----- | ----- | 355.5 | 119 | BMU | 367.4 | 131 | FJH | | | | | | |
| 211614 | X | Peg | 365.40 | 115 | FJH | 386.5 | 133 | FJH | 325.5 | 113 | FJH | 325.5 | 106 | CMG |
| type Mira | | | 367.39 | 118 | FJH | 391.5 | 145 | CMG | 352.5 | 118 | FJH | 347.5 | 125 | FJH |
| | | | 367.5 | 118 | KPG | ----- | ----- | ----- | 364.5 | 122 | FJH | 365.5 | 132 | FJH |
| 325.5 | 124 | CMG | 369.38 | 116 | FJH | 214612 | AG | Peg | 378.4 | 128 | FJH | 379.5 | 134 | FJH |
| 325.5 | 126 | FJH | 370.37 | 116 | FJH | type Z | And | | 386.5 | 128 | FJH | 386.5 | 138 | FJH |
| 347.5 | 138 | FJH | 370.5 | 120 | BMU | | | | 391.4 | 124 | CMG | 391.4 | 134 | CMG |
| 365.4 | 144 | FJH | 372.5 | 120 | BMU | 388.4 | 90 | BMU | 403.4 | 128 | CMG | 403.4 | 141 | CMG |
| 367.5 | 143 | KPG | 376.40 | 117 | FJH | ----- | ----- | ----- | 405.4 | 131 | FJH | ----- | ----- | ----- |
| 378.4 | 142 | FJH | 376.41 | 120 | BMU | 215605 | V | Peg | ----- | ----- | ----- | 224517 | SX | Peg |
| 387.5 | 138 | FJH | 379.56 | 118 | FJH | type Mira | | | 220912 | RU | Peg | type Mira | | |
| 391.4 | 136 | CMG | 381.38 | 117 | FJH | | | | type UGSS | | | | | |
| 403.4 | 119 | BMU | 382.4 | 118 | BMU | 352.5 | 142 | FJH | | | | 325.5 | 92 | FJH |
| 403.4 | 123 | CMG | 383.41 | 116 | FJH | 365.4 | 145 | FJH | 325.52 | 124 | FJH | 364.5 | 100 | FJH |
| 403.4 | 123 | FJH | 384.40 | 93 | BMU | 378.4 | 151 | FJH | 352.48 | 124 | FJH | 381.4 | 105 | FJH |
| ----- | ----- | ----- | 385.36 | 83 | BMU | 387.5 | 150 | FJH | 365.48 | 126 | FJH | 391.4 | 107 | FJH |
| 212216 | TV | Peg | 385.36 | 86 | CMG | 393.4 | 145 | CMG | 367.5 | 126 | KPG | 391.5 | 104 | CMG |
| type Mira | | | 386.48 | 83 | BMU | ----- | ----- | ----- | 368.47 | 127 | FJH | 403.4 | 108 | CMG |
| | | | 386.49 | 83 | FJH | 215934 | RT | Peg | 377.5 | 126 | BMU | ----- | ----- | ----- |
| 354.5 | :153 | FJH | 387.42 | 84 | BMU | type Mira | | | 378.44 | 127 | FJH | 225542 | SZ | And |
| 365.5 | :155 | FJH | 387.43 | 85 | FJH | | | | 381.46 | 127 | FJH | type Mira | | |
| 380.4 | :158 | FJH | 388.41 | 86 | BMU | 325.5 | 103 | CMG | 383.40 | 126 | FJH | | | |
| ----- | ----- | ----- | 389.37 | 91 | FJH | 347.5 | 107 | FJH | 386.46 | 120 | FJH | 325.5 | 102 | CMG |
| 212610 | UU | Peg | 389.38 | 89 | BMU | 365.4 | 127 | FJH | 387.44 | 118 | FJH | 347.5 | 111 | FJH |
| type Mira | | | 390.37 | 96 | BMU | 381.5 | 139 | FJH | 388.40 | 118 | FJH | 365.4 | 117 | FJH |
| | | | 391.38 | 104 | BMU | 391.5 | 141 | CMG | 388.45 | 112 | BMU | 379.5 | 123 | FJH |
| 354.5 | 145 | FJH | 391.39 | 106 | FJH | 393.5 | 141 | FJH | 390.42 | 116 | FJH | 390.5 | 124 | FJH |
| 365.4 | 144 | FJH | 391.48 | 107 | CMG | ----- | ----- | ----- | 390.43 | 112 | BMU | 393.3 | 124 | CMG |
| 378.4 | 129 | FJH | 393.37 | 110 | BMU | 220133B | RZ | Peg | 391.39 | 114 | FJH | 400.4 | 128 | FJH |
| 403.4 | 114 | FJH | 393.37 | 114 | CMG | type Mira | | | 391.46 | 108 | CMG | ----- | ----- | ----- |
| ----- | ----- | ----- | 400.4 | 121 | BMU | | | | 393.40 | 110 | BMU | 225914 | RW | Peg |
| 213678 | S | Cap | 403.39 | 119 | CMG | 325.5 | 111 | CMG | 393.41 | 111 | FJH | type Mira | | |
| type Mira | | | 403.43 | 118 | CMG | 347.5 | 115 | FJH | 395.50 | 110 | FJH | | | |
| | | | 403.52 | 118 | FJH | 369.4 | 110 | FJH | 400.37 | 117 | FJH | 325.5 | 107 | FJH |
| 314.5 | 90 | CMG | 405.35 | 119 | CMG | 376.4 | 105 | FJH | 403.37 | 123 | CMG | 354.5 | 100 | FJH |
| 324.5 | 92 | CMG | 405.4 | 121 | BMU | 391.4 | 93 | FJH | 405.4 | 124 | BMU | 364.5 | 101 | FJH |
| 372.4 | 99 | FJH | ----- | ----- | ----- | 391.5 | 97 | CMG | ----- | ----- | ----- | 367.5 | 100 | KPG |
| 376.5 | 99 | BMU | 214012 | TU | Peg | 403.4 | 87 | BMU | 222129 | RV | Peg | 373.4 | 100 | FJH |
| 390.4 | 101 | BMU | type Mira | | | 403.4 | 90 | CMG | type Mira | | | 377.5 | 97 | BMU |
| 391.4 | 104 | CMG | | | | ----- | ----- | ----- | | | | 388.5 | 102 | BMU |
| 400.4 | 104 | CMG | 347.5 | 111 | FJH | 220412 | T | Peg | 365.4 | :154 | FJH | 390.5 | 103 | FJH |
| 400.5 | 103 | BMU | 369.4 | 96 | FJH | type Mira | | | 380.4 | 153 | FJH | 391.5 | 102 | CMG |
| ----- | ----- | ----- | 376.4 | 87 | FJH | | | | 393.5 | 154 | FJH | 400.4 | 105 | BMU |
| 213753 | RU | Cyg | 388.4 | 82 | BMU | 325.5 | 131 | FJH | ----- | ----- | ----- | 403.4 | 110 | CMG |
| type SR | | | 391.5 | 85 | CMG | 352.5 | 119 | FJH | 222439 | S | Lac | 403.5 | 107 | FJH |
| | | | 403.4 | 83 | BMU | 364.4 | 113 | FJH | type Mira | | | ----- | ----- | ----- |
| 317.5 | 86 | SEN | 403.4 | 85 | CMG | 377.5 | 119 | BMU | | | | 230110 | R | Peg |
| 324.6 | 85 | SEN | ----- | ----- | ----- | 378.4 | 118 | FJH | 325.5 | 125 | CMG | type Mira | | |
| 335.5 | 86 | SEN | 214024 | RR | Peg | 386.5 | 113 | FJH | 325.5 | 126 | FJH | | | |
| 348.5 | 85 | SEN | type Mira | | | 388.4 | 114 | BMU | 347.5 | 118 | FJH | 325.5 | 82 | SCL |
| 369.5 | 87 | SEN | | | | 391.4 | 112 | CMG | 369.4 | 97 | FJH | 364.4 | 97 | FJH |
| 388.4 | 88 | SEN | 325.5 | 145 | FJH | 403.4 | 101 | FJH | 391.4 | 86 | CMG | 367.5 | 95 | KPG |
| 405.4 | 87 | SEN | 352.5 | 145 | FJH | 403.4 | 102 | BMU | 403.4 | 84 | CMG | 377.5 | 98 | BMU |
| ----- | ----- | ----- | 365.4 | 139 | FJH | 403.4 | 104 | CMG | 403.4 | 85 | BMU | 378.4 | 98 | FJH |
| 213831V1760Cyg | | | 378.4 | 133 | FJH | ----- | ----- | ----- | ----- | ----- | ----- | 388.5 | 99 | BMU |
| type Mira | | | 386.5 | 123 | FJH | 220613 | Y | Peg | 222924 | SS | Peg | 390.4 | 100 | SCL |
| | | | 388.5 | 119 | BMU | type Mira | | | type Mira | | | 391.4 | 105 | CMG |
| 367.5 | :142 | KPG | 391.5 | 113 | CMG | | | | | | | 403.4 | 104 | CMG |
| ----- | ----- | ----- | 403.4 | 103 | BMU | 352.5 | 135 | FJH | 364.5 | 92 | FJH | 405.4 | 107 | BMU |
| 213843 | SS | Cyg | 403.4 | 106 | CMG | 364.5 | 113 | FJH | 376.4 | 97 | FJH | ----- | ----- | ----- |
| type UGSS | | | 405.4 | 111 | FJH | 378.4 | 104 | FJH | 391.4 | 106 | FJH | 230746 | OS | And |
| | | | ----- | ----- | ----- | 386.5 | 102 | FJH | 391.5 | 105 | CMG | type Na | | |
| 314.52 | 119 | CMG | 214443 | WY | Cyg | 391.4 | 104 | CMG | 403.4 | 107 | CMG | | | |
| 324.48 | 121 | BMU | type Mira | | | 403.4 | 110 | CMG | 405.4 | 107 | BMU | 365.50 | 150 | FJH |
| 324.54 | 119 | CMG | | | | 403.4 | 111 | FJH | 405.4 | 107 | FJH | 378.45 | 149 | FJH |

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|----------------|----------------|---------------|---------------|
| 393.46 151 FJH | 232543 DX And | 235255 WY Cas | 378.5 134 FJH |
| ----- | type UGSS | type Mira | 386.5 137 FJH |
| 230759 V Cas | | | 390.4 143 CMG |
| type Mira | 365.50 144 FJH | 314.5 117 CMG | 393.5 138 FJH |
| | 366.51 143 FJH | 324.5 119 CMG | |
| 314.5 94 CMG | 367.50 144 FJH | 347.5 126 FJH | |
| 324.5 89 CMG | 368.48 144 FJH | 367.5 131 KPG | |
| 335.5 87 SEN | 378.45 145 FJH | 368.4 135 FJH | |
| 367.5 86 KPG | 379.49 144 FJH | 379.4 135 FJH | |
| 368.4 85 FJH | 380.47 144 FJH | 390.4 135 FJH | |
| 369.6 86 SEN | 383.40 143 FJH | 391.5 135 CMG | |
| 377.4 90 BMU | 386.51 142 FJH | 400.4 137 CMG | |
| 379.4 93 FJH | 388.51 144 FJH | ----- | |
| 386.5 97 BMU | 393.45 143 FJH | 235350 R Cas | |
| 390.4 98 FJH | ----- | type Mira | |
| 390.4 99 SEN | 232642 BG And | | |
| 391.3 100 CMG | type Mira | 314.5 125 CMG | |
| 400.4 106 CMG | | 324.5 126 CMG | |
| 405.4 107 SEN | 354.5 101 FJH | 325.5 126 FJH | |
| 405.4 108 BMU | 391.4 99 FJH | 351.4 126 FJH | |
| ----- | ----- | 352.5 125 NWL | |
| 231425 W Peg | 232848 Z And | 367.5 125 FJH | |
| type Mira | type Z And | 370.5 120 BMU | |
| | | 379.4 123 FJH | |
| 316.5 96 KKP | 374.4 110 FJH | 386.5 118 BMU | |
| 354.5 95 FJH | 390.5 110 FJH | 390.4 118 FJH | |
| 364.4 98 FJH | 405.3 107 CMG | 391.4 117 CMG | |
| 367.5 96 KPG | 405.4 109 BMU | 400.4 114 CMG | |
| 377.5 100 BMU | ----- | 400.4 115 BMU | |
| 378.4 105 FJH | 2338-15 R Aqr | ----- | |
| 388.5 103 BMU | type Mira | 235525 Z Peg | |
| 391.4 109 FJH | | type Mira | |
| 391.5 106 CMG | 367.5 104 FJH | | |
| 400.4 107 BMU | 379.5 102 FJH | 325.5 115 FJH | |
| 403.4 110 CMG | 393.4 97 CMG | 365.5 99 FJH | |
| 405.4 112 FJH | ----- | 367.5 98 KPG | |
| ----- | 233956 Z Cas | 378.4 96 FJH | |
| 231508 S Peg | type Mira | 388.5 84 BMU | |
| type Mira | | 391.4 86 FJH | |
| | 324.5 129 CMG | 391.5 85 CMG | |
| 364.4 126 FJH | 325.5 130 FJH | 400.4 82 BMU | |
| 367.5 127 KPG | 347.5 97 FJH | 403.4 83 CMG | |
| 378.4 130 FJH | 367.5 103 KPG | ----- | |
| 390.5 130 FJH | 368.4 102 FJH | 2357-15 W Cet | |
| 391.4 133 CMG | 377.5 105 KPG | type Mira | |
| ----- | 379.4 102 FJH | | |
| 231539 RY And | 390.4 106 FJH | 393.4 82 CMG | |
| type Mira | 391.4 110 CMG | ----- | |
| | 400.4 110 CMG | 235855A Y Cas | |
| 393.4 :140 CMG | ----- | type Mira | |
| ----- | 235053 RR Cas | | |
| 231817 IP Peg | type Mira | 314.5 124 CMG | |
| type UGSS+E | | 324.5 122 CMG | |
| | 324.5 132 CMG | 325.5 118 FJH | |
| 352.49 124 FJH | 325.5 135 FJH | 347.5 105 FJH | |
| 354.50 126 FJH | 347.5 124 FJH | 368.4 102 FJH | |
| 368.48 145 FJH | 368.4 119 FJH | 379.4 102 FJH | |
| 381.46 156 FJH | 379.4 118 FJH | 390.4 102 FJH | |
| 393.47 143 FJH | 390.4 117 FJH | 391.3 103 CMG | |
| ----- | 391.4 116 CMG | 400.4 104 FJH | |
| 231839 BU And | 400.4 116 FJH | 400.4 105 CMG | |
| type Mira | 400.4 117 CMG | ----- | |
| | ----- | 235939 SV And | |
| 354.5 :144 FJH | 2352-09 V Cet | type Mira | |
| 365.5 144 FJH | type Mira | | |
| 380.5 142 FJH | | 325.5 116 FJH | |
| 388.5 140 FJH | 393.4 97 CMG | 352.5 126 FJH | |
| ----- | ----- | 365.5 130 FJH | |