

Baader Ultra- Highspeed f/2 Filter and NEW DISCOVERY - the PN „Roc’s Nebula“ Strottner-Drechsler 13

This is a tale of two stories, initially independent from one another, which eventually culminated in an outstanding discovery.

The first of these starts with filters. Ultra-Narrowband f/2 high speed-filters to be precise. In order to be able to take narrow-band recordings with fast astrographs, you need the right filters.

When I bought my *C11 HyperStar* a few years ago, I was told that there were no filters available that would work satisfactorily at f/2, but I was also informed that the Baader Planetarium was doing research on just such filters. With that thought in mind, I gathered some courage one day, and decided to reach out to them, offering to test any of these filters once they were ready. To my surprise, they agreed, and I had the great pleasure of testing some of their prototypes!

Their efforts eventually culminated in the now famous *Baader f/2 H-alpha, O-III, S-II* high-speed filters. Equipped with their technology, I ventured into capturing increasingly challenging objects. This is how objects, such as the *PFPI* (Pierce, Frew & Parker), were exposed. To this day, only few such pictures have been possible.



https://www.astrobin.com/394663/?image_list_page=2&nc=&ncc=

Could such a wonderful technology be improved any further? The Baader Planetarium definitely thought so!

I was later asked to test a new set of filters. This time, the prototypes were built more elaborately and were made much narrower. The f/2 H-alpha filter now has a half-bandwidth (HBW) of 3.5 nm and the S-II and O-III filters both have a HBW of 4.0 nm.

The second story starts with Marcel Drechsler's question, whether I would like to photograph a newly discovered planetary nebula. That suited me quite well.

I would describe Marcel (https://www.astrobin.com/users/Marcel_Drechsler/) not only as a gifted astrophotographer, but also as an explorer or even a PN-hunter. His strategy has been to scan photo plates of the large telescopes for structures that indicate a PN.

Marcel Drechsler's PN catalog is getting longer and longer by the day. It's quite outstanding that skilled and dedicated amateurs are still capable of finding new and unknown Deepsky objects!



Respecter les majuscules et les espaces !
Exemple: PN-G 262.4-01.9 ou DeGaPe 32
Recherche rapide...

Catalogue Dr (37 entrées)

Marcel Drechsler

Le catalogue Dr est composé de: 2 nébuleuses planétaires probables
35 nébuleuses planétaires possibles

| Nom | Coord. gal. | AD | DEC | Dimensions | Type |
|-------|-----------------|-------------|--------------|---------------------|-------------------------|
| Dr 1 | PN-G 260.9-08.5 | 07:59:49.12 | -46:10:47.35 | 1.8 min d'arc | Possible NP, CSPN ? |
| Dr 2 | PN-G 248.0-05.3 | 07:40:55.00 | -33:33:22.84 | 1.3 min d'arc | Possible NP, CSPN ? |
| Dr 3 | PN-G 248.4-02.1 | 08:11:58.34 | -29:56:41.39 | 1.8 min d'arc | Possible NP, CSPN ? |
| Dr 4 | PN-G 346.9-00.0 | 17:10:32.75 | -39:47:36.84 | 0.7 x 0.6 min d'arc | Possible NP |
| Dr 5 | PN-G 103.9-05.5 | 21:57:35.52 | +61:51:28.95 | 0.2 min d'arc | Possible NP |
| Dr 6 | PN-G 318.9-00.8 | 14:57:10.32 | -58:03:36.55 | 0.1 min d'arc | Possible NP |
| Dr 7 | PN-G 321.3+00.4 | 15:13:54.00 | -57:11:51.23 | 0.2 min d'arc | Possible NP |
| Dr 8 | PN-G 294.5+01.2 | 11:42:41.88 | -60:27:28.02 | 0.3 min d'arc | Possible NP |
| Dr 9 | PN-G 319.2-03.7 | 15:17:45.49 | -61:56:31.60 | 0.2 min d'arc | Possible NP |
| Dr 10 | PN-G 354.2-00.5 | 17:33:28.85 | -34:05:55.78 | 0.1 min d'arc | Possible NP |
| Dr 11 | PN-G 024.8-06.0 | 18:58:33.41 | -09:56:38.95 | 0.7 min d'arc | Possible NP |
| Dr 12 | PN-G 296.2-00.2 | 11:53:33.19 | -62:21:26.64 | 0.1 min d'arc | Possible NP |
| Dr 13 | PN-G 250.9-02.0 | 08:17:51.85 | -32:04:40.32 | 0.3 min d'arc | Possible NP |
| Dr 14 | PN-G 233.7-00.4 | 07:29:05.45 | -18:37:03.45 | 8.6 x 5.8 min d'arc | NP probable |
| Dr 15 | PN-G 316.3+01.5 | 14:37:10.21 | -58:34:08.37 | 9.4 x 7.6 min d'arc | Region HII, Possible NP |
| Dr 16 | PN-G 312.6-00.8 | 14:16:01.83 | -62:04:18.50 | 0.2 min d'arc | Possible NP |
| Dr 17 | PN-G 324.2+04.0 | 15:18:32.75 | -52:38:22.50 | 1 min d'arc | Possible NP, CSPN ? |
| Dr 18 | PN-G 313.9+07.1 | 14:6:51.86 | -54:07:42.45 | 2 min d'arc | Possible NP |
| Dr 19 | PN-G 227.9+00.2 | 07:20:18.50 | -13:10:35.03 | 2.3 min d'arc | Possible NP |
| Dr 20 | PN-G 012.1-33.1 | 20:27:59.68 | -30:56:02.20 | 5.3 min d'arc | Possible NP |
| Dr 21 | PN-G 107.1-14.8 | 23:23:49.89 | +45:16:54.43 | 7.5 min d'arc | Possible NP, CSPN ? |
| Dr 22 | PN-G 249.9+02.4 | 08:17:13.44 | -31:03:39.06 | 4 min d'arc | Possible NP, CSPN ? |
| Dr 23 | PN-G 078.6-14.0 | 19:25:26.71 | +46:46:26.42 | 8 min d'arc | Possible NP, CSPN ? |
| Dr 24 | PN-G 058.7-07.4 | 20:08:33.85 | +19:01:24.88 | 6.4 min d'arc | Possible NP, CSPN ? |
| Dr 25 | PN-G 094.4+10.4 | 20:36:51.53 | +58:27:57.33 | 2.6 min d'arc | Possible NP, CSPN ? |
| Dr 26 | PN-G 145.3+05.6 | 04:06:49.60 | +59:43:46.08 | 3 min d'arc | Possible NP, CSPN ? |
| Dr 27 | PN-G 117.4-05.2 | 00:11:03.42 | +57:10:36.30 | 9 min d'arc | CSPN ? NP Probable |
| Dr 28 | PN-G 139.3-09.8 | 02:33:54.60 | +49:45:51.73 | 4.5 min d'arc | Possible NP, CSPN ? |
| Dr 29 | PN-G 051.5-01.7 | 19:32:45.83 | +15:43:12.57 | 6.2 min d'arc | Possible NP, CSPN ? |
| Dr 30 | PN-G 109.9-08.1 | 23:25:34.37 | -52:32:36.69 | 66 min d'arc | Possible NP, CSPN ? |
| Dr 31 | PN-G 052.6-02.0 | 19:35:50.13 | +16:28:47.50 | 0.6 min d'arc | Possible NP, CSPN ? |
| Dr 32 | PN-G 169.4+03.8 | 05:34:06.69 | +39:56:03.20 | 0.5 min d'arc | Possible NP, CSPN ? |
| Dr 33 | PN-G 048.7+02.6 | 19:11:02.73 | +15:17:48.00 | 1.2 min d'arc | Possible NP, CSPN ? |
| Dr 34 | PN-G 179.9-01.3 | 05:51:00.85 | +29:39:10.14 | 0.5 x 0.4 min d'arc | Possible NP, CSPN ? |
| Dr 35 | PN-G 111.4-05.9 | 23:30:41.11 | +55:04:11.82 | 9.9 x 8.6 min d'arc | Possible NP, CSPN ? |
| Dr 36 | PN-G 125.3-08.9 | 01:07:40.04 | +53:52:24.02 | 2.7 x 2.1 min d'arc | Possible NP, CSPN ? |
| Dr 37 | PN-G 046.9-00.8 | 19:20:26.60 | +12:02:19.81 | 2 x 1.3 min d'arc | Possible NP, CSPN ? |

Classification actuelle:

- 730 entrées au total, dont:
- 45 nébuleuses planétaires
- 17 nébuleuses planétaires probables
- 552 nébuleuses planétaires possibles
- 116 objets de natures différentes

En 2019...

- 198 entrées ont été ajoutées aux bases de données, dont:
- 52 candidates NP et 20 "objets"

Candidates NP non encore publiées:

| Nom | Coord. gal. | Origine |
|---------|-----------------|------------------------------|
| StDr 14 | PN-G 047.3+01.2 | IPHAS, DSS, PanSTARRS... |
| StDr 13 | PN-G 204.4-00.4 | IPHAS, DSS, PanSTARRS, Ma... |
| StDr 12 | PN-G 104.2+04.8 | IPHAS, PanSTARRS, DSS... |
| StDr 11 | PN-G 069.4-03.8 | IPHAS, PanSTARRS, DSS... |
| StDr 10 | PN-G 303.7+03.4 | SHS, DECAPS... |
| StDr 9 | PN-G 306.9+03.7 | SHS, DSS, DECAPS... |
| StDr 8 | PN-G 176.1+02.1 | IPHAS, DSS... |
| StDr 7 | PN-G 063.1+00.2 | IPHAS, DSS... |
| StDr 6 | PN-G 074.7+02.9 | IPHAS, PanSTARRS, DSS... |
| StDr 5 | PN-G 071.1-04.7 | IPHAS, DSS... |

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Observations des candidates NP:

155 observations réalisées
Lien vers la liste des observations spectroscopiques: [ICI](#)

Another PN discoverer is the Xavier Strottner, who works with Marcel Drechsler, and also maintains an impressive list of newly discovered PN candidates:

Respecter les majuscules et les espaces !

Exemple: PN-G 262.4-01.9 ou DeGaPe 32

Recherche rapide...

Catalogue StDr

(14 entrées)

Xavier Strottner - Marcel Drechsler

Le catalogue StDr est composé de: **14 nébuleuses planétaires possibles**

| Nom | Coord. gal. | AD | DEC | Dimensions | Type |
|---------|-----------------|-------------|--------------|---------------------|---------------------|
| StDr 1 | PN-G 185.1-00.9 | 05:53:50.86 | +24:02:27.11 | 4.8 min d'arc | Possible NP |
| StDr 2 | PN-G 093.4-03.2 | 21:40:22.13 | +48:21:52.64 | 0.6 min d'arc | Possible NP, CSPN ? |
| StDr 3 | PN-G 097.7+03.4 | 21:31:59.35 | +56:13:15.52 | 2 x 1 min d'arc | Possible NP |
| StDr 4 | PN-G 098.4+02.2 | 21:41:30.82 | +55:47:52.78 | 3 x 2.3 min d'arc | Possible NP |
| StDr 5 | PN-G 071.1-04.7 | 20:28:54.25 | +30:44:07.00 | 1.4 min d'arc | Possible NP |
| StDr 6 | PN-G 074.7+02.9 | 20:07:58.58 | +38:02:10.51 | 0.1 min d'arc | Possible NP, CSPN ? |
| StDr 7 | PN-G 063.1+00.2 | 19:50:11.26 | +26:43:32.09 | 0.3 min d'arc | Possible NP |
| StDr 8 | PN-G 176.1+02.1 | 05:44:33.78 | +33:21:37.29 | 0.4 min d'arc | Possible NP, CSPN ? |
| StDr 9 | PN-G 306.9+03.7 | 13:22:24.99 | -58:52:01.03 | 4.4 x 3.3 min d'arc | Possible NP, CSPN ? |
| StDr 10 | PN-G 303.7+03.4 | 15:58:00.36 | -59:27:07.38 | 2 min d'arc | Possible NP, CSPN ? |
| StDr 11 | PN-G 069.4-03.8 | 20:20:50.30 | +29:49:51.10 | 1.4 min d'arc | Possible NP, CSPN ? |
| StDr 12 | PN-G 104.2+04.8 | 22:03:30.65 | +61:29:43.39 | 0.8 min d'arc | Possible NP, CSPN ? |
| StDr 13 | PN-G 204.4-00.4 | 06:34:22.65 | +07:22:20.24 | 7.5 min d'arc | Possible NP, CSPN ? |
| StDr 14 | PN-G 047.3+01.2 | 19:13:45.30 | +13:22:09.99 | 1 min d'arc | Possible NP, CSPN ? |

Classification actuelle:

730 entrées au total, dont:
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| StDr 13 | PN-G 204.4-00.4 | IPHAS, DSS, PanSTARRS, Ma... |
| StDr 12 | PN-G 104.2+04.8 | IPHAS, PanSTARRS, DSS... |
| StDr 11 | PN-G 069.4-03.8 | IPHAS, PanSTARRS, DSS... |
| StDr 10 | PN-G 303.7+03.4 | SHS, DECaPS... |
| StDr 9 | PN-G 306.9+03.7 | SHS, DSS, DECaPS... |
| StDr 8 | PN-G 176.1+02.1 | IPHAS, DSS... |
| StDr 7 | PN-G 063.1+00.2 | IPHAS, DSS... |
| StDr 6 | PN-G 074.7+02.9 | IPHAS, PanSTARRS, DSS... |
| StDr 5 | PN-G 071.1-04.7 | IPHAS, DSS... |

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Observations des candidates NP:

155 observations réalisées

Lien vers la liste des observations spectroscopiques: [ICI](#)

Thanks to Marcel, I obtained the coordinates of a special "highlight" among new PNs: the *PN Strottner-Drechsler 13 in Monoceros*.

StDr13

Diameter of the structure: 7'

Coordinates: 06 34 22.650 +07 22 20.24

Monoceros constellation, west of IC448



With a target in sight and the right kind of equipment, now I had a mission. Finally, on December 3rd 2019, with favorable weather conditions, I prepared my setup and waited patiently.

The H-alpha data was within all expectations. The O-III data on the other hand, revealed the true nature of the object for the very first time. It was a bipolar planetary nebula, a true sensation!

Observation des candidates StDr2, StDr4, StDr12 et StDr13

10 Décembre 2019 - Pascal Le Dû

Confirmation NP



Fig1: la candidate StDr 13 en H-alpha/OIII/RGB (Andreas Bringmann)

Moisson de décembre

Entre deux passages nuageux, Pascal Le Dû a pu réaliser les spectres de quelques candidates nébuleuses planétaires découvertes récemment par Xavier Strottner et Marcel Drechsler qui sont référencées sur le site PNnet ([catalogue StDr](#))

Des objets pas faciles à observer, comme d'habitude, qui ont nécessité plusieurs heures de pose avec son Newton de 200 mm et son spectrographe Alpy 600. Les objets observés StDr 2, StDr 4, StDr 12 et StDr 13 ont tous montré de belles raies en émission. Les candidates StDr 12 et StDr 13 se distinguent du lot car elles montrent essentiellement des raies nébuleuses typique de NP (doublet [OIII], raies [NII] et Halpha). Cerise sur le gâteau, Andreas Bringmann a réalisé récemment une magnifique image de StDr 13. Pascal a superposé le champ de son autoguideur, ce qui permet de situer la fente du spectrographe sur la superbe image d'Andreas Bringmann.

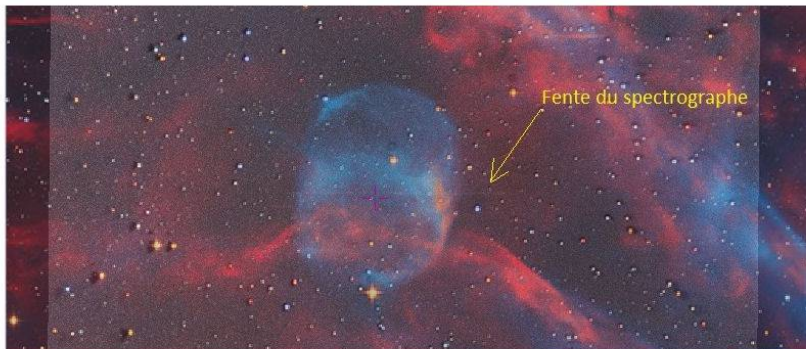
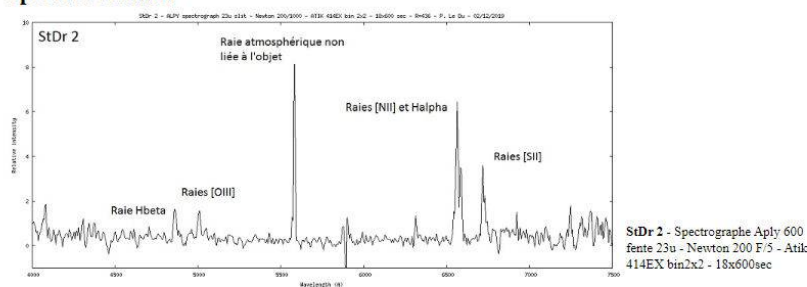


Fig2: superposition de la fente sur l'image de StDr 13

Spectres réalisés



Further spectral examination also confirmed the presumed nature of the object.

This ultimately marked the intersection point of the two stories. The coordinates provided by the discoverers Xavier Strottner and Marcel Drechsler, paired with the excellent contrast of the new prototypes of *Baader Ultra-Highspeed f/2* filters came together to make this beautiful discovery possible!

Respecter les majuscules et les espaces !

Exemple: PN-G 262.4-01.9 ou DeGaPe 32

Recherche rapide... Valider

A propos de l'article...

Date: 10 Décembre 2019

Auteur: Pascal Le Dû

Catégorie: Confirmation NP

Numéro d'article: 40

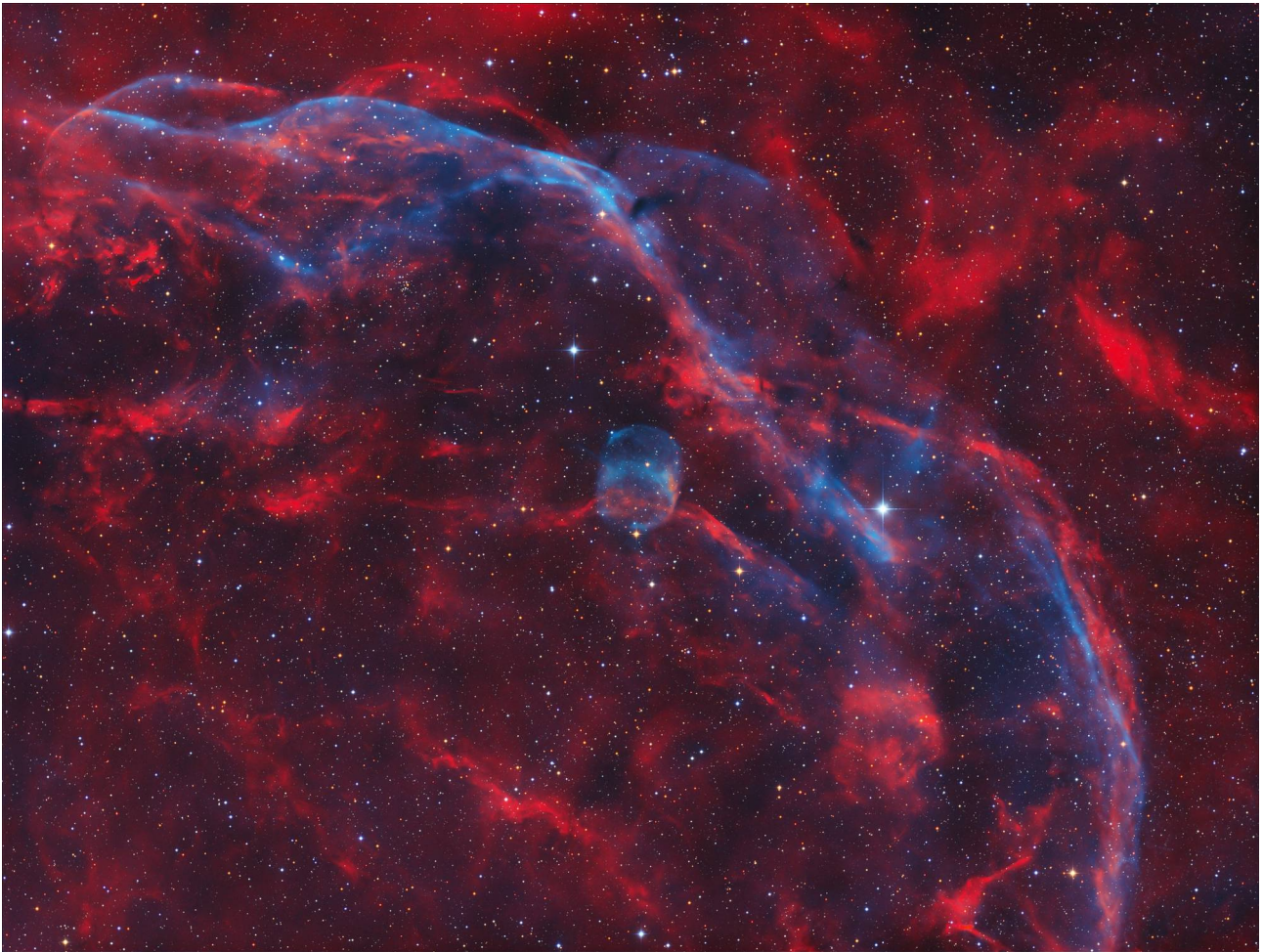
Afficher tous les articles: [cliquer ici](#)

Articles associés:

- 7 candidates nébuleuses planétaires observées a...
- Une image HaOIII/RGB de PaMo 1...
- Observation de Kn 131...
- Observation de Mnl-IR-67...
- Observation d'un spectre d'une candidate NP de la ...

As a photographer, I am particularly proud that this photo made it to *picture of the day* on the website astrobin.com (accompanied by many nice letters).

Strottnner-Drechsler 13 inside the Monoceros Loop SNR:



<https://www.astrobin.com/axwn6w/0/?nc=>

For me, the PN StDr13 was one of the highlights during the tests of the prototypes of the *Baader Ultra-Highspeed f/2 filters*.

It should take another year from the first prototype of the *Ultra-Highspeed f/2 filter* to the finished product. The delay was due to the pandemic but also to an endless series of coating attempts to keep the production process affordable.

With the final version of the *Ultra-Highspeed f/2 filter* I was able to expose the following objects that have a very low surface brightness.

Sh2-308 - The Dolphin Nebula in HO-LRGB:

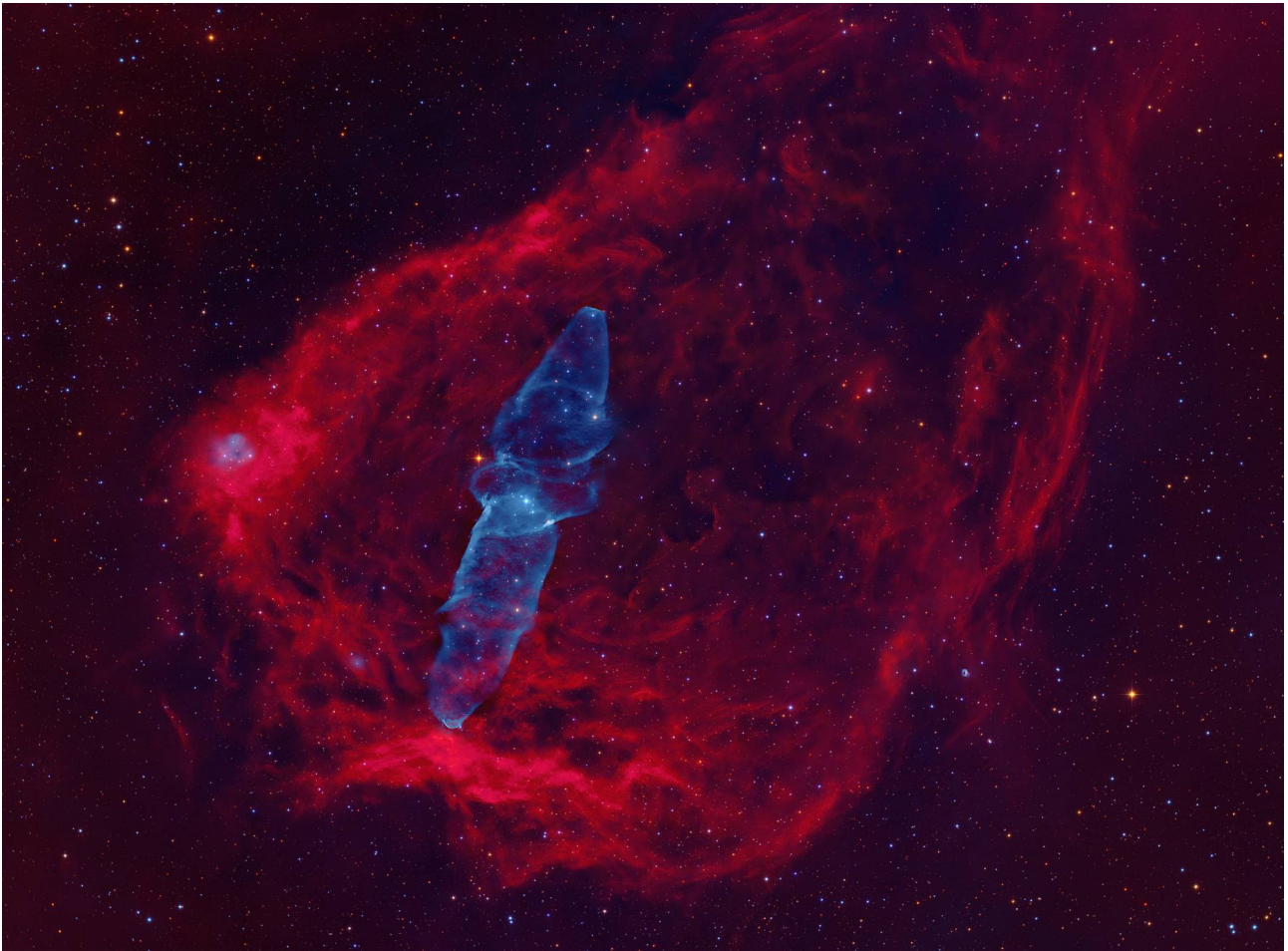


<https://www.astrobin.com/gycw9/?nc=user>

Seen from Ingolstadt the object is located very south and reaches a maximum height above the horizon of only 18° during the culmination.

The bipolar nebula *Ou4* which emits in the OIII spectrum is and remains a real challenge.

Ou4 and SH2-129:



<https://www.astrobin.com/1ndbqs/?nc=user>

More pictures showing the quality of these filters can be found in my astrobin gallery:

<https://www.astrobin.com/users/equinox/>

I would like to thank Baader Planetarium for the opportunity to test the *Ultra-Highspeed f/2 filters*. It was an exciting time. Greetings to the whole team!

I would also like to wish Marcel and Xavier the best of luck with further discoveries.

With kind regards,

Andreas Bringmann

