Large Planetaries
Observing Guide
Reiner Vogel
Emission line intensities and PN status based partly on Madsen et al. 2006, Proc IAU Symp 234, astro-ph605114v1

Finder charts measure 20° (with 5° circle) and 5° (with 1° circle) and were made with Cartes du Ciel by Patrick Chevalley (http://www.ap-i.net/skychart)

Images are DSS Images with a size of 60'x60' and close ups (http://archive.stsci.edu/cgi-bin/dss_plate_finder)

Downloaded from www.reinervogel.net
08/2012 (added observations)
09/2012 (added objects)
03/2013 (added observations)

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## Large Planetaries

<table>
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<tr>
<th>RA</th>
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<th>other</th>
<th>emission line intensities</th>
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<tr>
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<td>Dec</td>
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<td>+30 28 02</td>
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Sh 2-216 in Perseus

Observing notes:

14" f/5
The NE border with highest contrast to the background could be observed with OIII filter
Visible already with 80 mm finder equipped with UHC filter.

<table>
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<th>visibility on POSS II</th>
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<td>Sh 2-216</td>
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<td>100*100</td>
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<td>good, better on red, OIII=Hα</td>
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</table>

POSS blue

POSS red
**Outters 4 in Cepheus**

Nicolas Outters, www.outters.fr, SII HII OIII (upper), OIII (lower)

RA dec diam [''] other visibility on POSS II

| Ou 4  | 21h 11 48 | +59 59 12 | 69x20 | Giant Squid Nebula | not visible, mostly OIII |

Observing notes:
22" f/4.5
08/2012: With 7mm exit pupil and OIII, the brightest part at the NE side of the southern lobe was suspected, very doubtful.
TK1 (Ton 320) in Cancer

H alpha 80'x100'

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<th>diam [']</th>
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<th>visibility on POSS II</th>
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<td>invisible</td>
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Observing notes:
Weinberger-Dengel (WeDe, WDHS) 1 in Orion

Observing notes:

22" f/4.5
11/2008: unsuccessful observation
3/2013: Suspected with OIII as a round filled disk with defined borders towards N and W, more diffuse towards S. Unsafe observation.
Purgathofer-Weinberger I (PuWe I) in Lynx

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<td>06h 19 34</td>
<td>+55 36 42</td>
<td>20*20</td>
<td>good on red, fainter on blue</td>
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Observing notes:

22" f/4.5
01/2011: at 80x (7mm exit pupil) with OIII, the PN appears as an extremely faint disk with a well defined border from SE to W. The rim is not brighter than the interior (i.e. no crescent or bubble shape). Toward NE, the PN dims out and disappears in the background. This is in agreement with OIII emission line images, that indicate a largely homogeneous disk with decreasing contrast to the N.
Pierce-Frew-Parker (PFP) 1 in Monoceros

Observing notes:

22" f/4.5
08/2012: I had tried the "bright" filament at the N edge, which looks promising on broadband "H alpha" frames and which is due to interaction with the ISM. Most of the emission in the red spectral range is, however, due to NII and not HII. The H beta flux is therefore lower than that in OIII. OIII or UHC filters should therefore be better than a pure H beta filter. During my attempt to observe this segment at the N edge, the filament was at best "suspected".

<table>
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<td>PFP 1</td>
<td>07 22 17.70</td>
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<td>extremely faint on blue, very faint on red</td>
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Abell 31 in Cancer

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<td>219+31.1</td>
<td>3a</td>
<td>08:54.2</td>
<td>+08 54</td>
<td>12.0</td>
<td>970</td>
<td>930</td>
<td>Cnc</td>
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Observing notes:

22" f/4.5
Observed several times. At 100x with OIII this PN appears huge. Boundaries not well defined, rather diffuse, with internal structure.
Ishida-Weinberger (IsWe) 2 in Cepheus

Observing notes:

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<td>+65 53 55</td>
<td>16*14</td>
<td>invisible on blue, very faint on red</td>
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22" f/4.5
08/2012: With 7mm exit pupil and H beta visible as a large, extremely faint glow. N and E side round, SW side more diffuse.
**Abell 35 in Hydra**

22" f/4.5

Observed several times. At 100x with OIII this PN is immediately visible despite its low elevation as a distinct, but very diffuse brightening around a group of three stars. Sometimes, the band structure in the S part was suspected.

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<td>938</td>
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<td>Hya</td>
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Observing notes:

- Observed several times. At 100x with OIII this PN is immediately visible despite its low elevation as a distinct, but very diffuse brightening around a group of three stars. Sometimes, the band structure in the S part was suspected.
Heckathorn-Fesen-Gull 1 (HFG 1) in Cassiopeia

Observing notes:

22" f/4.5
With OIII filter, this PN appears as a very faint irregular patch of light. Not visible w/o filter.

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<td>03h 03 48</td>
<td>+64 53 28</td>
<td>15'15</td>
<td>faint on blue, very faint on red</td>
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Abell 74 in Vulpecula

Observing notes:

22" f/4.5

With 7mm exit pupil and UHC, the PN was visible as a large and extremely faint glow. Some parts of the edge were well defined.
Abell 7 in Lepus

22" f/4.5
01/2009: At 100x with OIII filter, the PN is visible as an extremely faint and large brightening N of a distinct asterism.

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<td>215-30.1</td>
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<td>05:03.1</td>
<td>-15°36'</td>
<td>13.2p</td>
<td>871</td>
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Sh 2-174 in Cepheus

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<td>23h 46 49</td>
<td>+80 56 20</td>
<td>15'10</td>
<td>good on blue, better defined filaments on red, $H\alpha$$\gg$OIII, possibly no PN</td>
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Observing notes:

22" f/4.5
9 and 10/2010: at 100x visible both with OIII and H beta. Diffuse with no sharp boundaries. OIII emission is mainly restricted to the NW part of the PN, while H beta extends over a much larger part, corresponding to the extent on the red plates. This is supported by narrowband images.
01/2011: In an exceptionally clear night, the PN is relatively easy. Shape with OIII and Hbeta as before, appears largely round with UHC.
Ishida-Weinberger (IsWe) 1 in Perseus

Observing notes:
22" f/4.5
Unsuccessful observation
The expansion of this planetary nebula has been halted by the surrounding local gas but the central star has continued to move so as a result the star is no longer at the centre of the nebula.

**Observing notes:**

22" f/4.5

08/2008: at 100x with OIII, this PN is relatively easily visible as a faint glow with even surface brightness and diffuse boundaries.
This is a planetary nebula at a distance of about 140 pc. The central star is a blue subdwarf.

**Observing notes:**

22" f/4.5  
Several unsuccessful observations at 100 and 200x with OIII, UHC, and H beta.
Ellis-Grayson-Bond (EGB) 6 in Leo

Observing notes:

22'' f/4.5
With 7mm exit pupil and with OIII filter, the PN could be observed as an extremely faint patch of light. It does not appear ring-shaped, but rather as a faintly glowing disk.

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<td>EGB 6</td>
<td>09h 53 00</td>
<td>+13 44 50</td>
<td>13'*11</td>
<td></td>
<td>faint on red and blue, OIII~Hα</td>
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POSS blue

POSS red
Motch-Werner-Pakull (MWP) 1 in Cygnus

Observing notes:

22" f/4.5
07/2010: at 200x with OIII, an extremely faint, very diffuse and oval patch could be observed at the location that appears brightest on the blue POSS. Other OIII emission regions in the E and W lobes are somewhat fainter.

<table>
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<th>diam ['']</th>
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<td>MWP 1</td>
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<td>+34 12 40</td>
<td>13° 9</td>
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<td>good on blue, fainter on red</td>
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Abell 21 in Gemini

**Observing notes:**

22" f/4.5

Observed several times. With OIII, this PN is easily visible as a moderately bright crescent with some filamentary structure. Under very good conditions, further details can be observed; Toward NW, this crescent is filled with a much weaker glow. It extends to the NW boundary and the edge is faintly visible with OIII filter, along a curved arc of stars.

<table>
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<tr>
<th>Abell</th>
<th>Other</th>
<th>Type</th>
<th>R.A.</th>
<th>Dec.</th>
<th>Mag.</th>
<th>D[&quot;&quot;]</th>
<th>d[&quot;]</th>
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<th>notes</th>
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<td>07:29.0</td>
<td>+13°15'</td>
<td>10.2</td>
<td>744</td>
<td>509</td>
<td>Gem</td>
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Jacoby 1 in Bootes

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<th>diam ['']</th>
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<td>15h 21 47</td>
<td>+52 22 05</td>
<td>11*11</td>
<td></td>
<td>faint on blue, very faint on red</td>
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Observing notes:

22" f/4.5
Several unsuccessful or doubtful observations
Capellaro-Turatto-Salvadori-Sabbadin (CTSS) 3 in Aquila

<table>
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<tbody>
<tr>
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<td>19h 03 08</td>
<td>+14 06 57</td>
<td>11* 9</td>
<td>Sh 2- 78</td>
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Observing notes:

22" f/4.5
Extremely faint object bordered by two stars. SW section is better defined and roughly rectangular, NE section is larger and more diffuse. Responds best to UHC, but is also visible with OIII and H beta.
Hartl-Dengel-Weinberger (HDW) 3 in Perseus

Observing notes:
22" f/4.5
08/2012: With OIII and 7mm exit pupil an extremely faint brightening was suspected.

<table>
<thead>
<tr>
<th></th>
<th>RA</th>
<th>dec</th>
<th>diam [']</th>
<th>other</th>
<th>visibility on POSS II</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDW 3</td>
<td>03h 27 15</td>
<td>+45 24 19</td>
<td>9' 9</td>
<td>HW 4</td>
<td>very faint on red and blue, OIII≈Hα</td>
</tr>
</tbody>
</table>

POSS blue

POSS red

RA dec diam ['] other visibility on POSS II
Dengel-Hartl 5 in Cepheus

Observing notes:

22" f/4.5
09/2010: At 100x with OIII filter, an extremely faint, round, and diffuse brightening was observed that re-appeared upon field-sweeping again and again. Not crescent-shaped. Close to VdB 152.

<table>
<thead>
<tr>
<th></th>
<th>RA</th>
<th>dec</th>
<th>diam [']</th>
<th>other</th>
<th>visibility on POSS II</th>
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<tbody>
<tr>
<td>DeHt 5</td>
<td>22h 19 34</td>
<td>+70 56 01</td>
<td>9* 9</td>
<td>DHW 5</td>
<td>good on red, faint on blue Hα&gt;&gt;OIII, possibly no PN</td>
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</tbody>
</table>
Longmore-Tritton (LoTr) 5 in Coma Berenices

Observing notes:

22" f/4.5
Successfully observed several times with OIII filtering. Not overly difficult. LoTr 5 shows a faint disk with relatively well defined boundary to the S, coinciding with the small star between the CS and the brighter star to the S. Also visible with UHC with somewhat lower contrast.
Simeis 22 in Cassiopeia

<table>
<thead>
<tr>
<th>Simeis 22</th>
<th>RA</th>
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<th>diam ['']</th>
<th>other</th>
<th>visibility on POSS II</th>
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<tbody>
<tr>
<td></td>
<td>01h 30 40</td>
<td>+58 22 00</td>
<td>9* 8</td>
<td>Sh 2-188</td>
<td>bright on red, fainter on blue, Hα&gt;OIII</td>
</tr>
</tbody>
</table>

Observing notes:

22" f/4.5
Observed many times with OIII. Relatively easy crecent-shaped PN. At good nights, some filamentous structure could be discerned.
NGC 1360 in Fornax

Observing notes:

22" f/4.5
Bright PN that responds well to OIII filter with bright central star. Oval shaped (N-S) with darker SE part.
Abell 29 in Pyxis

<table>
<thead>
<tr>
<th>Abell</th>
<th>Other</th>
<th>Type</th>
<th>R.A.</th>
<th>Dec.</th>
<th>Mag.</th>
<th>D[&quot;&quot;]</th>
<th>d[&quot;]</th>
<th>Const</th>
<th>notes</th>
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<tbody>
<tr>
<td>29</td>
<td>244+12.1</td>
<td>4</td>
<td>08:40.2</td>
<td>-20 54</td>
<td>14.3p</td>
<td>482</td>
<td>335</td>
<td>Pyx</td>
<td></td>
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</table>

Observing notes:
Abell 36 in Virgo

<table>
<thead>
<tr>
<th>Abell</th>
<th>Other</th>
<th>Type</th>
<th>R.A.</th>
<th>Dec.</th>
<th>Mag.</th>
<th>D[&quot;]</th>
<th>d[&quot;]</th>
<th>Const</th>
<th>notes</th>
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<tr>
<td>36</td>
<td>PK 318+41.1</td>
<td>3b/a</td>
<td>13:40.7</td>
<td>-19  53</td>
<td>11.8</td>
<td>478</td>
<td>281</td>
<td>Vir</td>
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Observing notes:

22" f/4.5
At 100x with OIII filter, the PN is quite obvious around the central star, slightly anular with darker center.
Hartl-Dengel-Weinberger (HDW) 2 in Cassiopeia

<table>
<thead>
<tr>
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<th>RA</th>
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<th>diam ['']</th>
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<th>visibility on POSS II</th>
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<tbody>
<tr>
<td><strong>HDW 2</strong></td>
<td>03 11 00</td>
<td>62 48 00</td>
<td>Sh 2-200</td>
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<td>faint on red and blue</td>
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</table>

Observing notes:

22" f/4.5

09/2010: At 100x with OIII, a very faint, round glow was observed, that extended well beyond the circular asterism in the center, in particular towards the N side.
Kohoutek 2-2 in Monoceros

Observing notes:

22" f/4.5

01/2011: At 100x with OIII, the PN does not appear crescent shaped but rather as a complete extremely faint disk, that pops up intermittently with indirect vision. Extends to the star on the left side in the middle on the POSS composite image.
Jones-Emerson 1 in Lynx

Observing notes:

22" f/4.5

Relatively bright PN that appears as a ring with darker center. Ring has two distinctly brighter and thicker parts at the NW and SE side.
Yerkes McDonald 16 in Serpens Cauda

Observing notes:

22“ f/4.5
08/2012: Unsuccessful with H beta and 7mm exit pupil.
Observing notes:

22" f/4.5

With OIII filter, a diffuse round glow can be observed between two groups of stars.
IPHASX J205013.7 + 465518 in Cygnus

Observing notes:
22" f/4.5
Best with 100x and 5.2mm exit pupil and with OIII filter. Appears as a large and extremely faint, structured brightening. N edge is round, S edge hardly defined. Central part better defined as NNE/SSW elongated bar.

<table>
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<tr>
<th>RA</th>
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<tr>
<td>20 50 05</td>
<td>+46 52 48</td>
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</table>
Abell 24 in Canis Minor

<table>
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<tr>
<th></th>
<th>RA</th>
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<th>diam ['']</th>
<th>other</th>
<th>visibility on POSS II</th>
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</thead>
<tbody>
<tr>
<td>Abell 24</td>
<td>07 51 38</td>
<td>+03 00 27</td>
<td>6</td>
<td></td>
<td>bright on red, fainter on blue</td>
</tr>
</tbody>
</table>

Observing notes:

22" f/4.5
With OIII filter, the PN appears extremely faint, round and featureless.
### Abell 28 in Ursa Major

**POSS blue red**

**RA dec diam ['] other visibility on POSS II**

| Abell 28 | 08 41 35 | +58 14 03 | 5 | faint on red, extremely faint on blue |

**Observing notes:**
Abell 45 in Scutum

<table>
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<th>diam ['']</th>
<th>other</th>
<th>visibility on POSS II</th>
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</thead>
<tbody>
<tr>
<td>Abell 45</td>
<td>18 30 17</td>
<td>-11 36 54</td>
<td>5</td>
<td>faint on red, invisible on blue</td>
</tr>
</tbody>
</table>

Observing notes:
Jones 1 in Pegasus

Observing notes:
22" f/4.5
Relatively bright PN that responds very well to the OIII filter. Forms a ghostly C-shaped PN that is open toward E with brighter rims N and S.