What people think first when they hear 'Munich'

- OCTOBERFEST
- HOFBRÄUHAUS
- MUNICH BEER
- FAIRY TALE KING LUDWIG II

Most people think first the famous football-club!
The club wins nearly every year the German Mastership:

<table>
<thead>
<tr>
<th>Saison</th>
<th>Platz</th>
<th>Tore</th>
<th>Punkte</th>
<th>Zuschauerschnitt</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012/13</td>
<td>1</td>
<td>98:18</td>
<td>91</td>
<td>71.000</td>
</tr>
<tr>
<td>2013/14</td>
<td>1</td>
<td>94:23</td>
<td>90</td>
<td>71.131</td>
</tr>
<tr>
<td>2014/15</td>
<td>1</td>
<td>80:18</td>
<td>79</td>
<td>72.966</td>
</tr>
<tr>
<td>2015/16</td>
<td>1</td>
<td>80:17</td>
<td>88</td>
<td>75.006</td>
</tr>
<tr>
<td>2016/17</td>
<td>1</td>
<td>89:22</td>
<td>82</td>
<td>75.000</td>
</tr>
<tr>
<td>2017/18</td>
<td>1</td>
<td>92:28</td>
<td>84</td>
<td>75.000</td>
</tr>
</tbody>
</table>

After 6 titles the 'German Mastership is boring' - only a Double with the 'German Cup' is still interesting:

<table>
<thead>
<tr>
<th>Jahr</th>
<th>Doublegewinner</th>
<th>Ergebnis Pokalfinale</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>Borussia Dortmund</td>
<td>5:2 gegen den FC Bayern München</td>
</tr>
<tr>
<td>2013</td>
<td>FC Bayern München</td>
<td>3:2 gegen den VfB Stuttgart</td>
</tr>
<tr>
<td>2014</td>
<td>FC Bayern München</td>
<td>2:0 n.V. gegen Borussia Dortmund</td>
</tr>
<tr>
<td>2016</td>
<td>FC Bayern München</td>
<td>4:3 n.E. gegen Borussia Dortmund</td>
</tr>
</tbody>
</table>
Occultations by Minor Planets are science, but it has also elements of sports.
A Double in a year is nothing special - but a Double in a night is an interesting target.

At Pentecost 2015 there was a chance of a Double in only 20 minutes!

The violet line is 656-Beagle and the yellow line is 58-Concordia.

Position und Zeit wurden durch Abfilmen eines GPS-Gerätes ermittelt.

Unfortunately the weather was bad.
Nevertheless it was possible to take a positive observation of Beagle in a cloudhole in Rheda-Wiedenbrück.

A Chance this year was the Double of 138-Tolosa and 372-Palma in North-Germany. The time difference was 23 hours. Unfortunately the weather changed dramatically in this 23 hours. - So I've got no positive result.

The conclusion is: The weather is too bad in Germany. Better chances are in South-Europe.

For traveling by airplane a light equipment is needed. An inspiration was the speech of Eberhard Brodner in Guildford 2016. He presented his small equipment for the solar eclipse last year and I tried to develop a comparable solution.
The optic is a small 80mm f/5 Fraunhofer made in China. The weight is much smaller than the weight of my 72mm Apochromat and for occultations no high magnification is needed. An advantage is the finder-shoe.

The counterweight is a water-bottle.
For recording a little hand-held recorder could be used, but the display is very small.

For the First Light a suitable Double was found in Steve-Preston's 'Best-Off'-Liste for 16.5.2017.
The time difference is 18 hours. The crosspoint was near Pompeji. An interesting target for a small holiday. The weather prediction was positive: The equipment takes place in a simple sport-bag.
For the first observation the region near Monte Cassino was elected. It's between Rome and Naples. Unfortunately the weather predictions were unsure.

15 min before the occultation the sky gets clear.

There was a short but positive signal with an uncommon long fading. Cause the small optic the framerate was 3,125 fps.
The fading was longer than the occultation of 2 s.

The star has only 11 mag. The spectral class is M0. But at 11 mag a red giant is too small for a significant surface-fading.

More suitable is a flat borderline.

View of Damit at the occultation time:

- The profile 1:40 h before the occultation fits better to shadow path. Maybe there is cumulative time error in the DAMIT-dataset.
- Other observations would be useful. Unfortunately there were no other known observers active in that night.

For the second observation I changed the position and observed near Paestum.
In Paestum is famous for the ruins of three Greek temples built 500 before Christ.

and a nice museum
One of the groves show the painting of the famous diver:
The observation place was nearby the Abbey Santuario Madonna del Granato.

The weather was perfect.

A problem was wind-shaking.

Video: 386siegenb.wmv
The occultation was long, with 12.32s longer than the expected value of 11.3s.
So the occultation was near the central line.

Other observations were made in Spain. So it was possible to calculate a profile.

The diameter fits well to the value of the DAMIT-data-source.

Both measurements are added to the Euraster-Dataset. So the Double was perfect!

Next target: The Triple....?

It's difficult. The club of 'Bayern München' win the Triple of 'German Mastership', 'German Cup' and 'Champions League' only one year.
Three crossing shadow-paths in 24 hours are nearly impossible.

...but maybe one day with the better Gaia-Dataset and some hours driving with the car, there will be a chance...

All informations are available at:
www.astrode.de/esop18a.htm