

# 2010-2012 total occultation statistics for Europe

Jan Mánek

Czech Astronomical Society

IOTA-ES

ESOP XXXII, Barcelona, Spain, August 23-25, 2013



## 2010-2012 total occultation statistics for Europe

- 36 / 33 / 39 / 33 observers
- 11 / 12 / 13 / 13 countries
- 1294 / 889 / 1313 / 1336 timings
- 749 / 627 / 937 / 1030 individual stars
- 1.73 / 1.42 / 1.40 / 1.30 observations / star

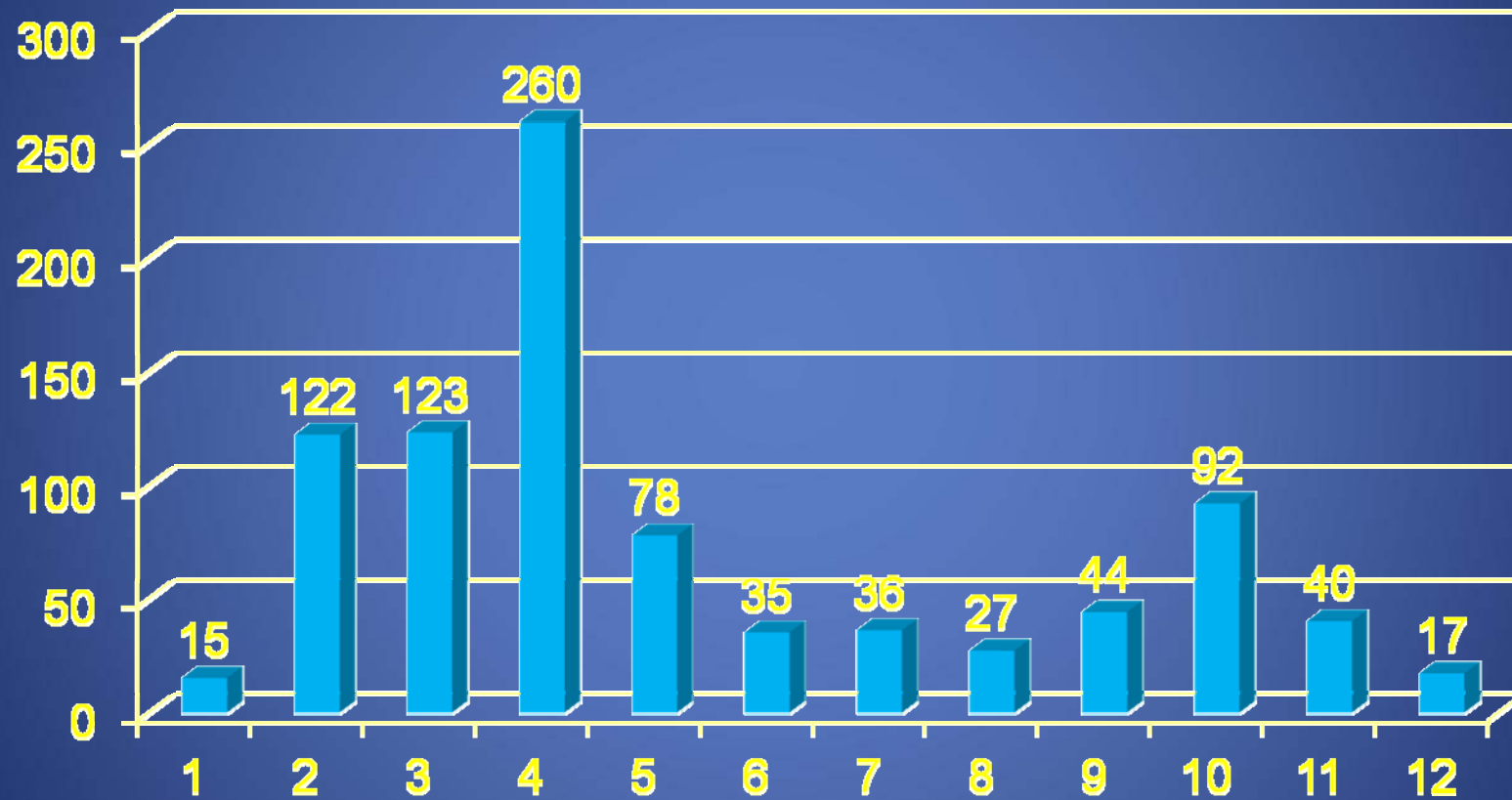


## 2010 total occultation statistics for Europe

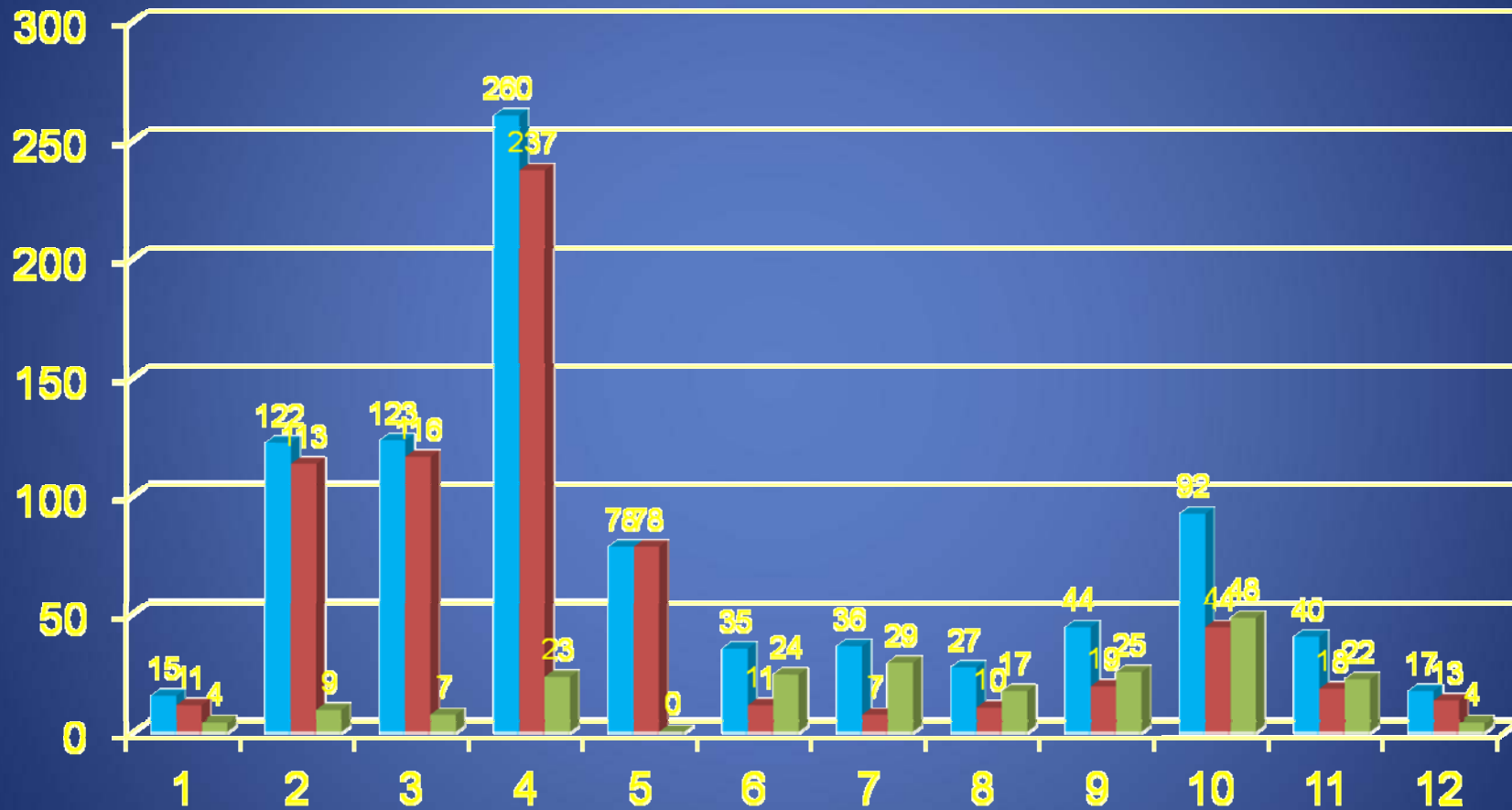
- 889 (2999) timings, 29.6%
- 677 D's
- 212 R's
- D/R 3.19



# 2010 total occultation statistics for Europe



# 2010 total occultation statistics for Europe

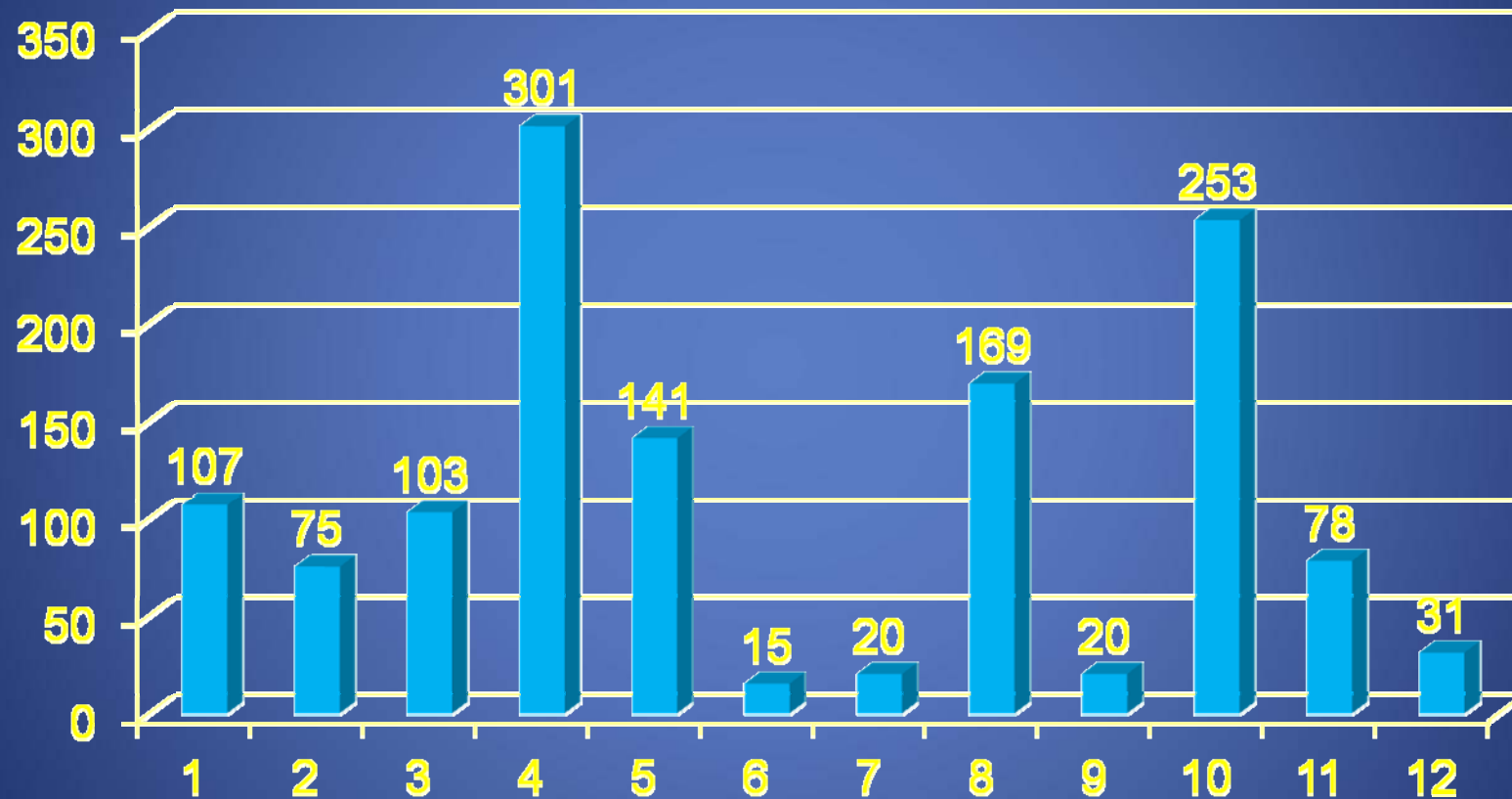


## 2011 total occultation statistics for Europe

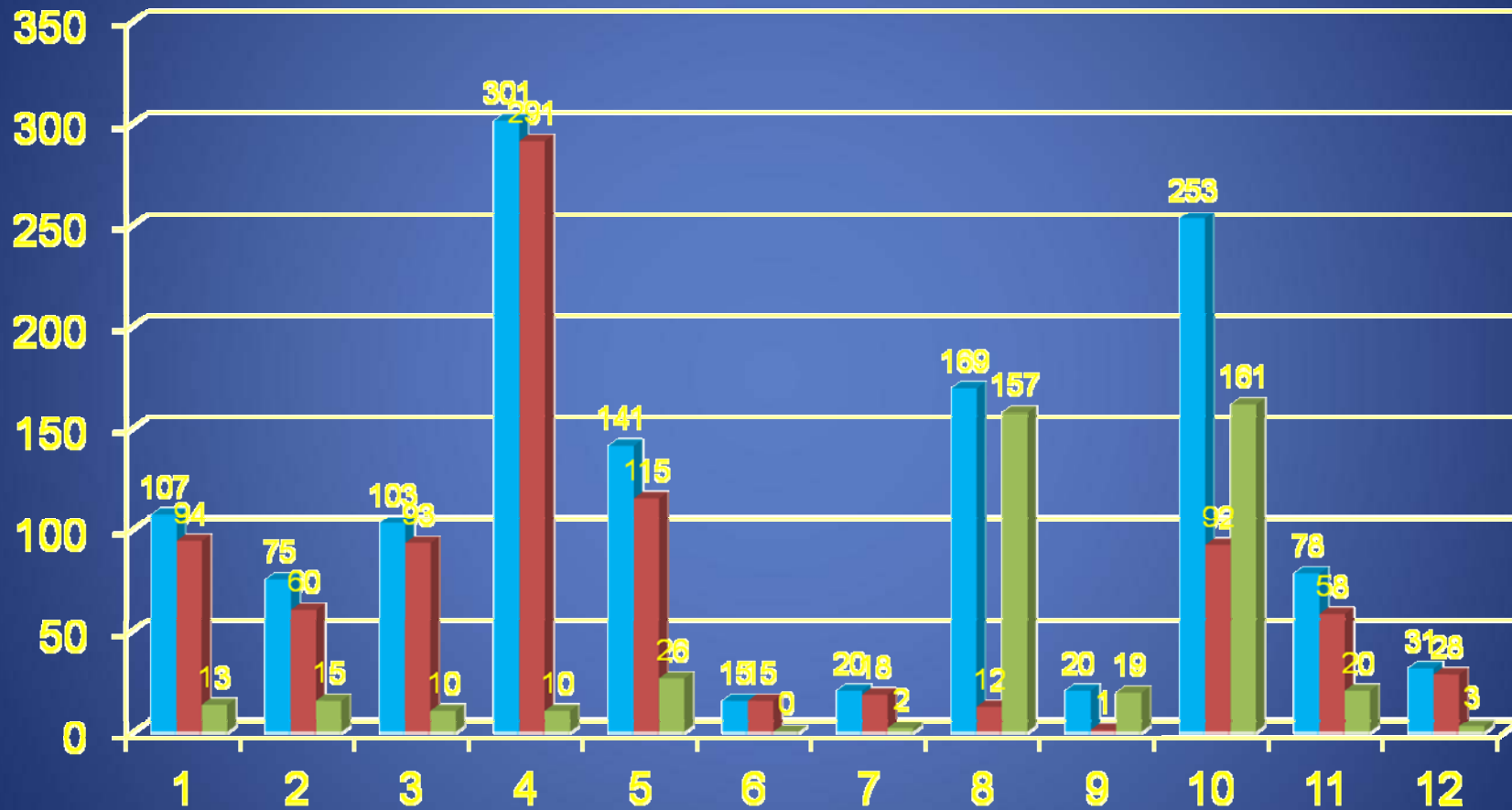
- 1313 (3237) timings, 40.6%
- 877 D's
- 436 R's
- D/R 2.01



# 2011 total occultation statistics for Europe



# 2011 total occultation statistics for Europe



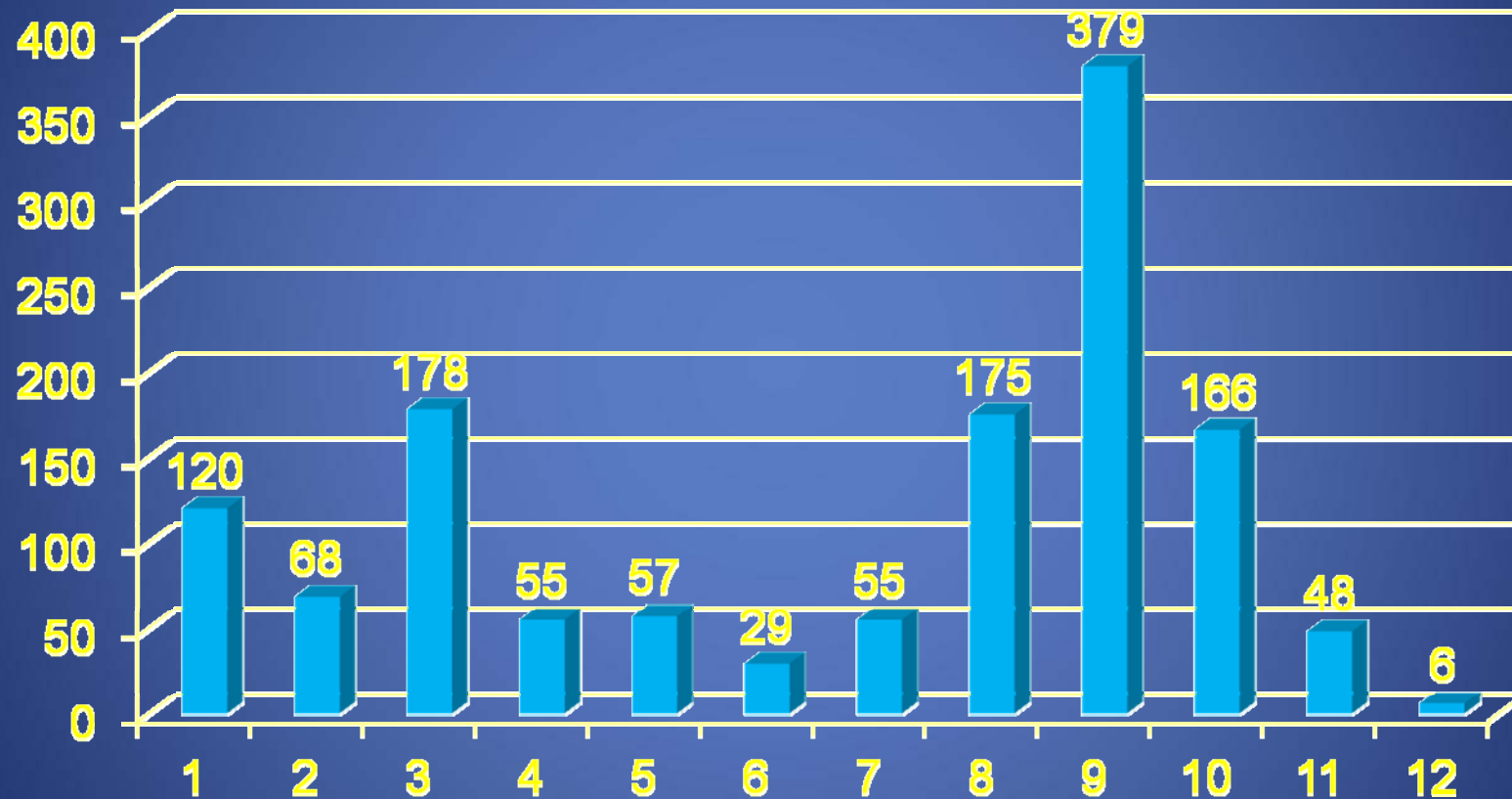


## 2012 total occultation statistics for Europe

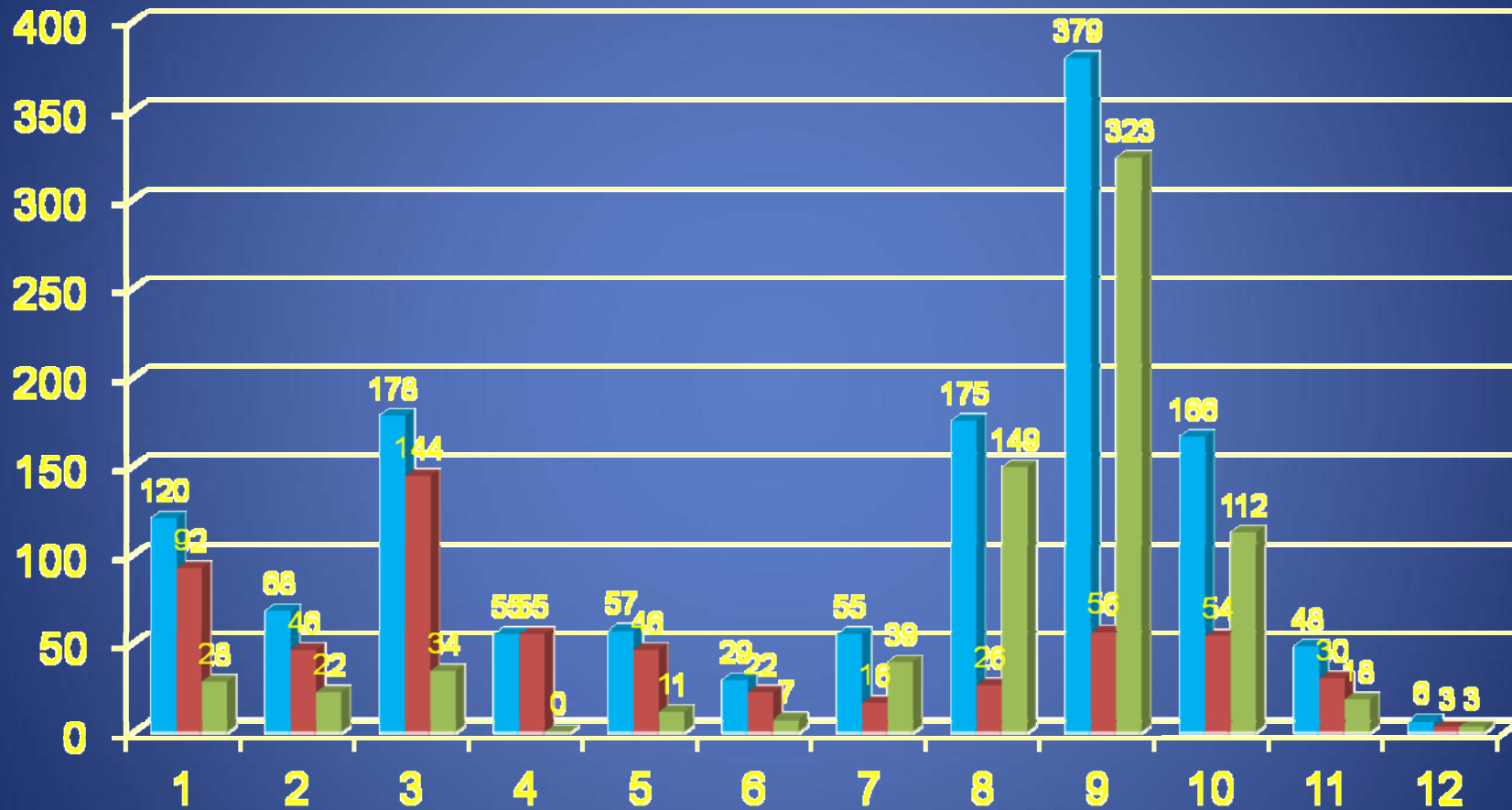
- 1336 (3027) timings, 44.1%
- 590 D's
- 746 R's
- D/R 0.79



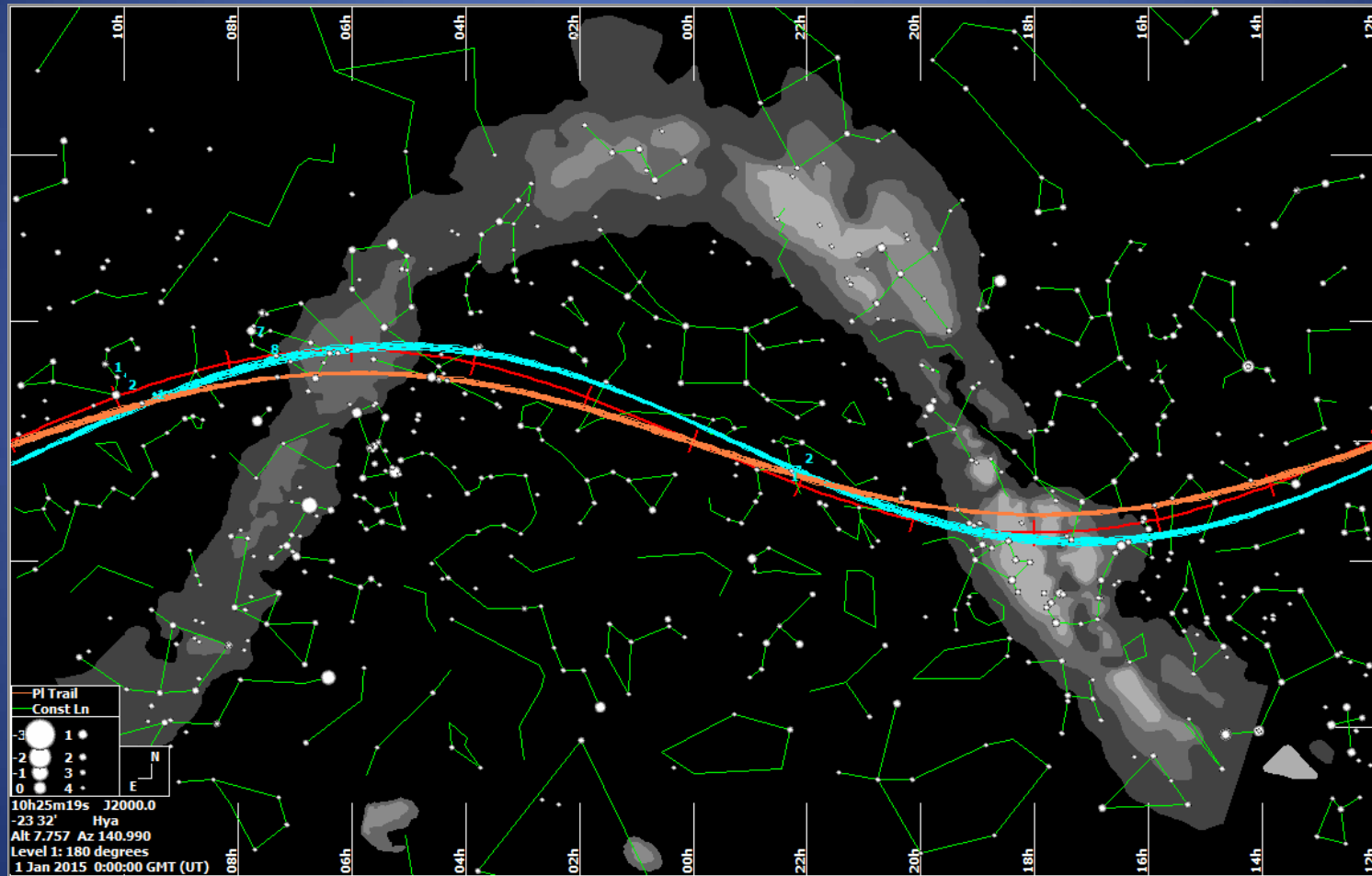
# 2012 total occultation statistics for Europe



# 2012 total occultation statistics for Europe



# 2010-2012 total occultation statistics for Europe



# 2010 total occultation statistics for Europe

Country	Observers
Netherlands	8
Czech Republic	4
Spain	3
Poland	3
Greece	3
Germany	3
Belgium	3
Austria	2
United Kingdom	1
Ukraine	1
Slovakia	1
Russia	1



# 2010 total occultation statistics for Europe

NAME	SITE	TOTAL
C. Perello	Sabadell, Barcelona, Spain	1
E. Van Ballegoij	Heesch, Netherlands	1
J. Kubanek	Zbiroh, Czech Republic	1
E. Simonson	Ham, London, United Kingdom	2
M. Chudy	Sternwarte Calden, Germany	2
T. Tenbergen	Meise, Belgium	2
A. Wargin	Bydgoszcz, Poland	3
D. Buettner	Chemnitz, Germany	3
D. Kapetanakis	Alepori, Greece	3
J. Fuertes	Leon, Spain	3
R. Boschloo	Almen, Netherlands	3
D. Wiebling	Luebeck, Germany	4
J. Rovira	Moia, Spain	4
M. Kapka	Dunajov, Slovakia	4
W.T. Zanstra	Appingedam, Netherlands	4
A. Scholten	Eerbeek, Netherlands	5
V. Tsamis	Keratea, Greece	5
A. Nesterenko	Koltsovo, Russia	7
E. Dachowska-Spiel	Ksiaz, Walbrzych, Poland	11
G. Barbieri	Pont-De-Loup, Belgium	13



# 2010 total occultation statistics for Europe

NAME	SITE	TOTAL
V. Priban	Observatory Dablice, Czech Republic	17
G. Vandenbulcke	Oostduinkerke, Belgium	23
M. De Kock	Zeddam, Netherlands	23
M. Jedlicka	Vsetin Observatory, Czech Republic	23
N. Stoikidis	Giannouli, Larissa, Greece	32
G. Dangl	Nonndorf, Austria	35
J.M. Winkel	Zeddam, Netherlands	38
J. Speil	Ksiaz, Walbrzych, Poland	45
E. Edens	Wijdenes, Netherlands	47
T. Weiland	Vienna, Austria	51
B.F. Sincheskul	Poltava, Ukraine	71
H.G.J. Rutten	Arcen, Netherlands	123
J. Manek	Praha-Barrandov, Czech Republic	280
	<b>Grand total</b>	<b>889</b>



# 2011 total occultation statistics for Europe

Country	Observers
Czech Republic	10
Netherlands	6
Spain	5
United Kingdom	4
Germany	2
Poland	2
Austria	2
Belgium	2
Greece	2
Italy	1
Russia	1
Slovakia	1
Ukraine	1





# 2011 total occultation statistics for Europe

NAME	SITE	TOTAL
F. Garcia	Munas De Arriba, Spain	1
K. Grishin	Togliatti, Russia	1
L. Hejda	Hvezdarna Zlin, Czech Republic	1
M. Rehak	Hvezdarna Zlin, Czech Republic	1
P. Denyer	Hornchurch, England	1
A. Pratt	Leeds, England	2
C. Perello	Sabadell, Barcelona, Spain	2
R. Kostenko	Poltava, Ukraine	2
T. Brazdil	Hvezdarna Zlin, Czech Republic	2
V. Tsamis, K. Tigani	Ellinogermaniki Agogi Observatory, Greece	2
J. Juran	Hvezdarna Zlin, Czech Republic	3
T. Coufal	Hvezdarna Zlin, Czech Republic	3
J. Ruiz	Santander, Cantabria, Spain	4
G. Dangl	Nonndorf, Austria	5
J. Rovira	Moia, Spain	6
T. Haymes	Knowl Hill Observatory, United Kingdom	6
D. Buettner	Chemnitz, Germany	7
R. Boschloo	Almen, Netherlands	7
M. De Kock	Zeddam, Netherlands	8
J. Kubanek	Zbiroh, Czech Republic	9



# 2011 total occultation statistics for Europe

NAME	SITE	TOTAL
W.T. Zanstra	Appingedam, Netherlands	9
Z. Coufal	Hvezdarna Zlin, Czech Republic	9
J. Vasatko	Hvezdarna Zlin, Czech Republic	10
V. Priban	Observatory Dablice, Czech Republic	11
G. Vandenbulcke	Oostduinkerke, Belgium	12
O. Kloes	Eppstein-Bremthal, Germany	12
E. Dachowska-Speil	Ksiaz, Walbrzych, Poland	14
M. Kapka	Dunajov, Slovakia	14
E. Mariani	Tradate (Va), Italy	15
J. Bourgeois	Reux Astronomical Station, Ciney, Belgium	16
J. Fuertes	Leon, Spain	25
T. Weiland	Vienna, Austria	32
J.M. Winkel	Zeddum, Netherlands	45
J. Speil	Ksiaz, Walbrzych, Poland	56
B. Mills	Hildenborough, Kent, United Kingdom	62
E. Edens	Wijdenes, Netherlands	155
H.G.J. Rutten	Arcen, Netherlands	170
J. Manek	Praha-Barrandov, Czech Republic	573
	<b>Grand Total</b>	<b>1313</b>



# 2012 total occultation statistics for Europe

Country	Observers
Czech Republic	9
Netherlands	5
United Kingdom	3
Spain	3
Bulgaria	2
Germany	2
Austria	2
Ukraine	2
Poland	1
Sweden	1
Italy	1
Belgium	1
Slovakia	1



# 2012 total occultation statistics for Europe

NAME	SITE	TOTAL
B. Mansdahl	Asensbruk, Sweden	1
G. Lopez	Avila, Spain	1
M. Coufal	Hvezdarna Zlin, Czech Republic	1
P. Denyer	Hornchurch, United Kingdom	1
S. Andersson	Berlin-Mueggelheim, Germany	1
A. Pratt	Leeds, United Kingdom	2
A. Wargin	Bydgoszcz, Poland	2
F. Garcia	Munas De Arriba, Spain	2
L. Hejda	Hvezdarna Zlin, Czech Republic	2
M. Rehak	Hvezdarna Zlin, Czech Republic	2
P. Jordanov	Dimitrovgrad, Bulgaria	2
G. Dangl	Nonndorf, Austria	3
E. Mariani	Tradate (Va), Italy	4
J. Fuertes	Leon, Spain	4
J. Juran	Hvezdarna Zlin, Czech Republic	4
W.T. Zanstra	Appingedam, Netherlands	4
J.M. Winkel	Zeddam, Netherlands	5
J. Vasatko	Hvezdarna Zlin, Czech Republic	5
R. Boschloo	Almen, Netherlands	5
B. Bonev	Astronomical Observatory Kardjali, Bulgaria	7



# 2012 total occultation statistics for Europe

NAME	SITE	TOTAL
Z. Coufal	Hvezdarna Zlin, Czech Republic	7
J. Kubanek	Zbiroh, Czech Republic	8
D. Buettner	Chemnitz, Germany	10
M. Kapka	Dunajov, Slovakia	12
T. Haymes	Knowl Hill Observatory, United Kingdom	13
V. Priban	Observatory Dablice, Czech Republic	18
V. Sevrukov	Kiev, Ukraine	22
T. Weiland	Vienna, Austria	28
J. Bourgeois	Reux Astronomical Station, Ciney, Belgium	42
E. Edens	Wijdenes, Netherlands	80
H.G.J. Rutten	Arcen, Netherlands	147
V. Mazur	AO KNU, Lesniki, Ukraine	255
J. Manek	Praha-Barrandov, Czech Republic	636
	<b>Grand total</b>	<b>1336</b>



# 2010 total occultation statistics for Europe

Name	Site	Total	D	R	Points
J. Manek	Praha-Barrandov, Czech Republic	280	110	170	620
H.G.J. Rutten	Arcen, Netherlands	123	123	0	123
B.F. Sincheskul	Poltava, Ukraine	71	53	18	107
T. Weiland	Vienna, Austria	51	39	12	75
E. Edens	Wijdenes, Netherlands	47	47	0	47
J. Speil	Ksiaz, Walbrzych, Poland	45	44	1	47
J.M. Winkel	Zeddam, Netherlands	38	37	1	40
G. Dangl	Nonndorf, Austria	35	35	0	35
N. Stoikidis	Giannouli, Larissa, Greece	32	32	0	32
M. Jedlicka	Vsetin Observatory, Czech Republic	23	19	4	31
M. De Kock	Zeddam, Netherlands	23	22	1	25
G. Vandenbulcke	Oostduinkerke, Belgium	23	23	0	23
V. Priban	Observatory Dablice, Czech Republic	17	14	3	23
G. Barbieri	Pont-De-Loup, Belgium	13	13	0	13
E. Dachowska-Speil	Ksiaz, Walbrzych, Poland	11	11	0	11

# 2011 total occultation statistics for Europe

Name	Site	Total	D	R	Points
J. Manek	Praha-Barrandov, Czech Republic	573	178	395	1363
H.G.J. Rutten	Arcen, Netherlands	170	170	0	170
E. Edens	Wijdenes, Netherlands	155	150	5	165
B. Mills	Hildenborough, Kent, United Kingdom	62	62	0	62
J. Speil	Ksiaz, Walbrzych, Poland	56	56	0	56
T. Weiland	Vienna, Austria	32	24	8	48
J.M. Winkel	Zeddam, Netherlands	45	45	0	45
J. Bourgeois	Reux Astronomical Station, Ciney, Belgium	16	3	13	42
J. Fuertes	Leon, Spain	25	24	1	27
M. Kapka	Dunajov, Slovakia	14	10	4	22
E. Mariani	Tradate (Va), Italy	15	13	2	19
E. Dachowska-Speil	Ksiaz, Walbrzych, Poland	14	14	0	14
J. Ruiz	Santander, Cantabria, Spain	4	0	4	12
G. Vandenbulcke	Oostduinkerke, Belgium	12	12	0	12
O. Kloes	Eppstein-Bremthal, Germany	12	12	0	12

# 2012 total occultation statistics for Europe

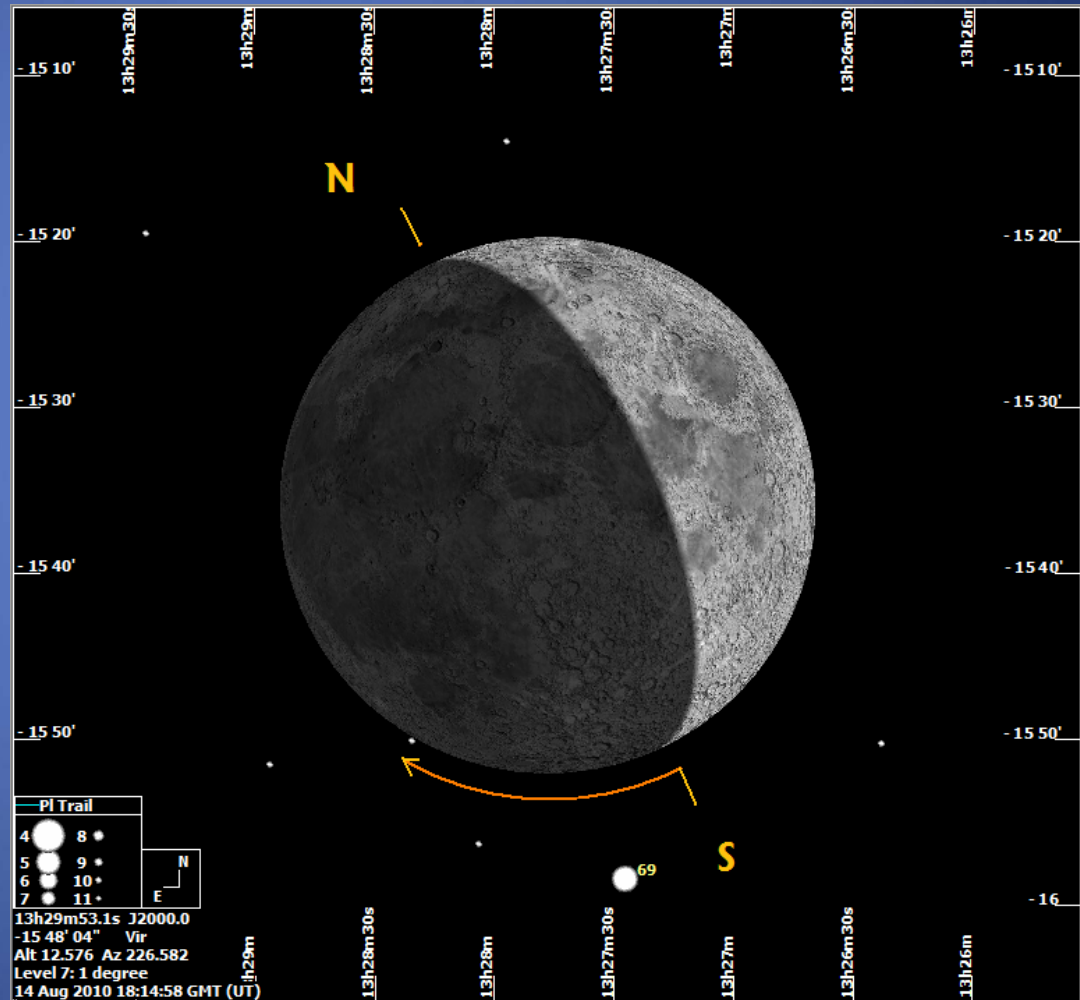
Name	Site	Total	D	R	Points
J. Manek	Praha-Barrandov, Czech Republic	636	169	467	1570
V. Mazur	AO KNU, Lesniki, Ukraine	255	62	193	641
H.G.J. Rutten	Arcen, Netherlands	147	123	24	195
E. Edens	Wijdenes, Netherlands	80	70	10	100
J. Bourgeois	Reux Astronomical Station, Ciney, Belgium	42	24	18	78
T. Weiland	Vienna, Austria	28	21	7	42
V. Priban	Observatory Dablice, Czech Republic	18	8	10	38
D. Buettner	Chemnitz, Germany	10	4	6	22
V. Sevrukov	Kiev, Ukraine	22	22	0	22
B. Bonev	Astronomical Observatory Kardjali, Bulgaria	7	2	5	17
M. Kapka	Dunajov, Slovakia	12	11	1	14
T. Haymes	Knowl Hill Observatory, United Kingdom	13	13	0	13
J. Kubanek	Zbiroh, Czech Republic	8	6	2	12
J.M. Winkel	Zeddam, Netherlands	5	3	2	9
Z. Coufal	Hvezdarna Zlin, Czech Republic	7	7	0	7



# Star not in predictions ?



- Remarks !!!
- Magnitude estimate
- Position angle (CA)
- If you know it, give GSC #
- Keep your (video) records



## Something unusual – a double \* ?

- It's a big advantage to have good recording
- Learn how to evaluate recording
- Learn Limovie light curve measurement
- Be careful with field evaluation !!!
- Learn Limovie light curve fitting
- First fill double star report and only after clearing possible problems fill the total occultation report !!!
- Again - keep your (video) records !!!
- Double check the inserted time !!!



# 2010-2012 total occultation statistics for Europe

Your observations are welcomed at  
[lunoccult@iota-es.de](mailto:lunoccult@iota-es.de)

THE END

