



OBSERVATION OF OCCULTATIONS IN CZECHIA

AND SETS FOR OBSERVATIONS

JIŘÍ KUBÁNEK, EFA

IOTA/ES, CZECH ASTRONOMICAL SOCIETY

ROKYCANY OBSERVATORY, 26 AUG 2018, ESOP

History

60s of the 20th century –
Valašské Meziříčí

NETWORK OF STATIONS FOR OBSERVATION OF LUNAR OCCULTATIONS



Source: astrovm.cz



Laterely center of czech stations was moved to Rokycany Observatory



Source: hvr.cz



Continuously transition from lunar to minor planets occultations

MORE THAN 40 SUBSCRIBERS OF NEWS ABOUT OCCULTATIONS
AND 10 – 14 ACTIVE OBSERVERS



Source: hw.cz; IOTA



Occultations by minor planets

FIRST CZECH POSITIVE OBSERVATION OF OCCULTATION:

OCT 1989 BRIXIA: JAN MÁNEK (VISUALLY)

FIRST CZECH BY OBJECTIVE METHODS:

26 AUG 2003 BERTHOLDA: KUŠNIRÁK (CCD), ŠTORK/SPURNÝ, MÁNEK, LUKEŠOVÁ, ŠMÍD, HALÍŘ (ALL VIDEO)

1997 – 2017:

ABOUT 66 OBSERVERS SAW 609 PHENOMENA IN 1037 OBSERVATIONS.

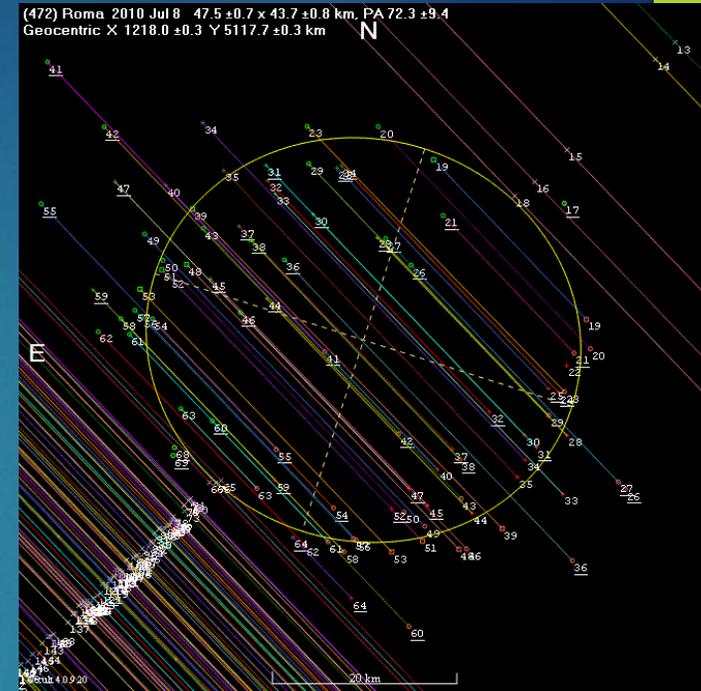
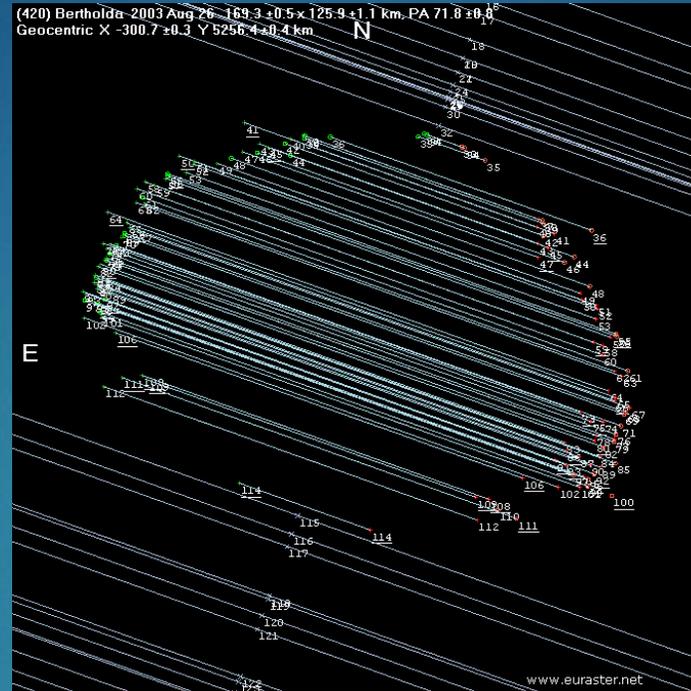
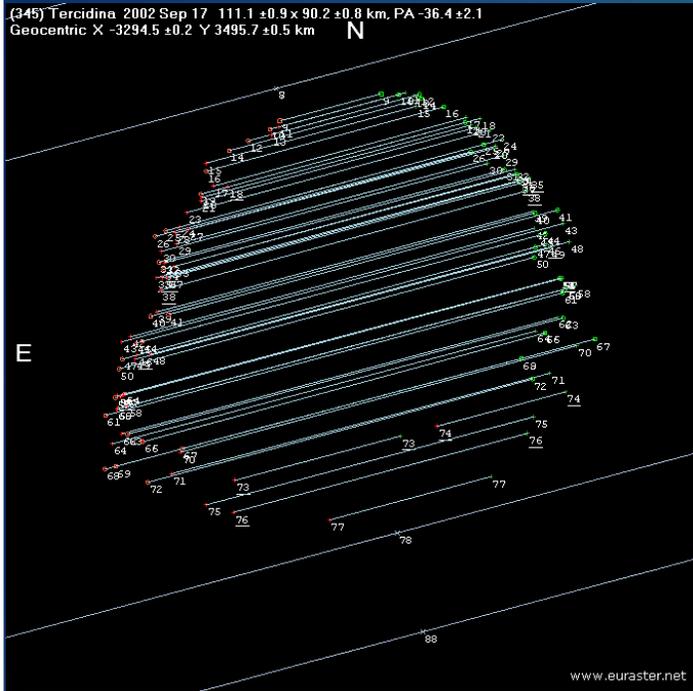
POSITIVE OF THEM:

52 OBSERVERS, 69 OCC., 181 OBSERVATIONS

POSITIVE OBSERVATIONS

OCT 1989 – 18 AUG 2018:

JAN MÁNEK	23
MICHAL ROTTENBORN	21
KAREL HALÍŘ	20
TOMÁŠ JANÍK	19
ZDENĚK MORAVEC	19
JIŘÍ POLÁK	15
JIŘÍ KUBÁNEK	14
VÁCLAV PŘIBÁŇ	12
LIBOR ŠMÍD	10



Source: Eric Frappa, euraster.net

The best asteroidal occultations in Europe

TERCIDINA, BERTHOLDA, ROMA (2002, 2003, 2010)



Idea – to buy several sets for observers

20TH CENTURY AND BEGINNING 21TH CENTURY – MOSTLY VISUALLY

2006 – 2012: MIX VISUALLY AND OBJECTIVE METHODS

SINCE 2013: MOSTLY OBJECTIVE METHODS

OBJECTIVE METHODS

(FAINTER STARS, OCCULTATIONS WITH SHORTER DURATIONS OR WITH SMALL
MAGNITUDE DROPS)

Telescope with mount and tripod

SCHMIDT-CASSEGRAIN 150/1500 MM, EQ5 (MANUALY)



TV camera

WATEC 120 N+



GPS GAMRIN
TIM-10

AVER MEDIA
EZMAKER USB



Time inserter and grabber

VIRTUALDUB
VD TIMER
LIMOVIE
TANGRA
OCCULT WATCHER
OCCULT
TEAMVIEWER
GOOGLEEARTHPRO



Notebook with software

Bigger telescope

NEWTON 303/1212 MM,
AZ-EQ6 (AUTOMATICALLY)

Foto: Michael Kollerbaum





7 sets (3 with 30 cm
telescope, 4 with 15 cm
telescope)

3100 € COMPLETE SET WITH NOTEBOOK – SMALLER TELESCOPE

4700 € COMPLETE SET WITH NOTEBOOK – BIGGER TELESCOPE

Some results during the last years

year	2010	2011	2012	2013	2014	2015	2016	2017
Total number of observations	38	39	45	21	112	86	118	155
Number of positive observations	5	1	12	3	14	10	25	15
Number of observed phenomena	28	28	22	17	71	62	76	97
Number of observers	11	7	11	7	11	11	12	10

Czech results of 2018 – positive observations

11 JIŘÍ KUBÁNEK (8 CZ, 2 HU, 1 SK)

8 MICHAL ROTTENBORN

5 KAREL HALÍŘ

5 JAN MÁNEK

4 VÁCLAV PŘIBÁŇ

3 ZDENĚK MORAVEC

3 JIŘÍ POLÁK

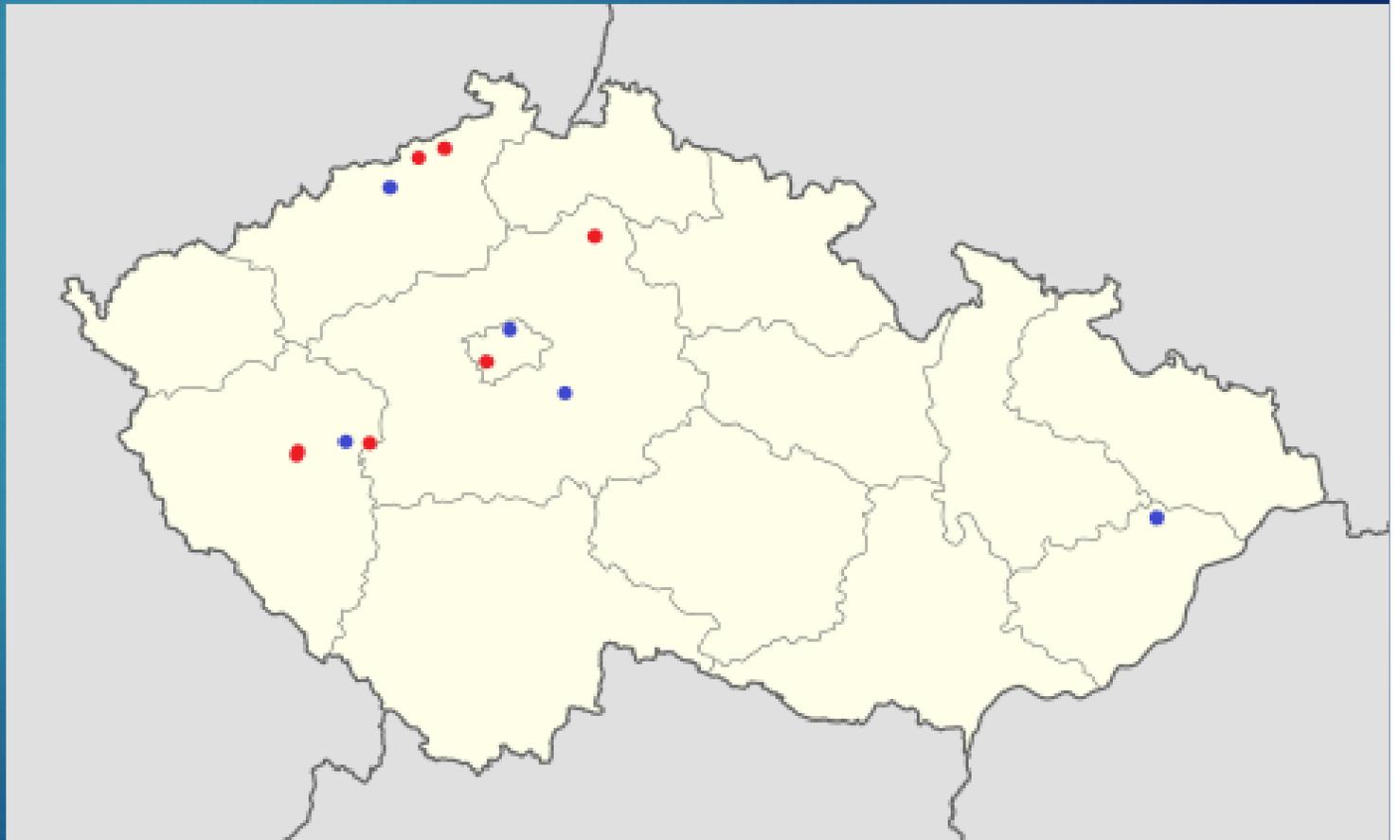
2 JAN ZAHAJSKÝ

1 TOMÁŠ JANÍK

1 KAREL SANDLER

1 MILAN ANTOŠ

1 LADISLAV ČERVINKA



Discovery of double star in constellation Aries

JIRÍ KUBÁNEK
PETER DELINČÁK
MACIEJ JARMOC

OCCULTATION OF MINOR PLANET (476) HEDWIG ON JULY 26, 2018
STAR TYC 1769_01181_1, 11,9 MAGNITUDE
MINOR PLANET 13,8 MAGNITUDE

SKY MOTION OF MINOR PLANET
BETWEEN D1-D2 0,028"
SEPARATION 0,0402"

