Short history and some activity from IOTA/ES

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www.iota-es.de
What is IOTA?

- 1975 official born by amateur and professionals founded, suggested by David Dunham
- „Occultation Newsletter“ (ON) starts 1974
- 1983 obtained IOTA tax exempt Status as non-profit organization
Press release

founding IOTA

International Occultation Timing Association
* European Section *

We are forming a dues-supported organization, called International Occultation Timing Association (IOTA). Observers will have to join IOTA in order to receive grazing occultation predictions on a regular basis. Other privileges of IOTA membership include subscription to Occultation Newsletter and predictions for certain other special occultation events, such as total occultations of faint stars during lunar eclipses and partial occultations of planets by the Moon. Various special papers will be distributed to members, including a detailed nodalal double star list, and a rewritten updated version of David Dunham’s grazing occultation papers.

Annual dues, in U.S. currency, are $7.00 for residents of Hawaii and North America, and $9.00 for others, the extra to cover air mail postage. Send checks or money orders to International Occultation Timing Association (or IOTA), 4032 N. Ashland Ave., Chicago, Illinois 60613. Requests for detailed predictions of grazing occultations, formerly sent to David Dunham, should now be requested from IOTA at the address above. Data for each graze requested will cost $1.50, and a copy of the graze paper $2.50, payable to IOTA, with these costs applicable towards membership if the requester decides to join. Separate subscriptions to Occultation Newsletter are available for $2 a year from IOTA. A sample copy is available upon request. Officers of IOTA include: Berton Stevens, Jr., secretary; David W. Dunham, president; John Phelps, Jr., vice president; and Homer DaRoll, treasurer.

Copies to: Sky and Telescope
- U. S. Naval Observatory
- N. M. Naval Almanac Office
- Royal Astronomical Society of Canada
- Nicholas Esposito
IOTA today:
- IOTA for America and Japan
- IOTA/ES
- IOTA/ME
- IOTA/India
- LIADA (La Liga Iberoamericana de Astronomía)
- RASNZ (Royal astronomical society of new Zealand)
- National groups like SOPIZ, SOTAS, Club Eclipse…
What is IOTA/ES?

- Hans-Joachim Bode worked as president AAH
- David founded 1975 official IOTA
- HJB and his friends held ESOP 1 and 2 in Hannover 1981/82
- Contact list → Maliczek → ESOP III in CSSR 1984
- Gentlemen's agreement
- IOTA/ES as “Verein” founded Jan. 1985 but the name was used years before
IOTA/ES today

- 95 member in 18 European countries
- Organize ESOP, Produce and publish JOA since 2011
- Host M2
- Partner in ERP program “Lucky Star”
“M2” a transportable telescope 500mm f=2m
Observation fields:
- Total and grazing occultation of star by Moon
- Occultation of stars by minor planets
- Occultation of Stars by TNO
- Solar eclipses
- Mutual occultation of great Planet satelites
- 180 positive reports in 2019 at euraster.net (Thanks to Eric Frappa!) of occultation by minor planets
- First half of 2020: already 134 positive observations, including 46 multi-chord observations.
  - Increasing number of multiple positive observations (→ chords, → DAMIT 3D models)
- Further improvement of 3D models for observation campaigns
Highlights were the (2) Pallas and (87) Sylvia events.

Even both moons were detected.
Highlights were the (2) Pallas and (87) Sylvia events.

improvement of the existing 3D model
Publishing of the *Journal for Occultation Astronomy* (JOA)

Since 2011 the IOTA/ES publishes the successor of the “Occultation Newsletter (ON)”. JOA is always published at the beginning of a quarter. The editorial team will be increased in the near future. Articles and reports for JOA are always welcome.
Annual meeting: *European Symposium on Occultation Projects* (ESOP):
- 12 times in Germany
- 5 times in Czech Republic
- 4 times in Poland
- 3 times in UK and Italy
- twice in B, NL, SP and F
- once in DK, SU, SK.

In 2019 the ESOP took place in Paris. With 80 participants the limit of the conference location was reached.

ESOP 2020 took place online on August 29/30.

ESOP is planned 2021 in Poland and 2022 in Spain.
European Symposium on Occultation Projects

ESOP 38 in 2020
In the venerable Cassini Hall of the Paris Observatory

Image: lesia.obspm.fr
Some results from the TSE 2019 July 02
Station Nord

Thanks to Xavier Jubier!

In the past we used video (Watec-camera) control of LDF with gain due to 8 bit only

Video from TSE2017 Aug 21 to control the inflection point

Limb darkening function
Now with 12 bit:

2019 July 2, 100/1000 + IOTA/ES + 535nm filter
PTGrey Chameleon 5ms
Advantage digital camera

- 12 bit camera realize higher dynamic range
- Exposition time exact
- Short exposition for better SNR
- Single pictures as FITs
- Identification beads
- Measure D and R, also „forming bead“
- Simulation with „OCCULT“ to find O-C
„bead forming“

20h39m28.1s
20h39m37.3s
**Result:**

\[ \Delta R_s = -0.08'' \pm 0.06'' \]
Thank you....