

November 2019

Observing our Desert Skies
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TUCSON AMATEUR ASTRONOMY ASSOCIATION

Monthly Events Bulletin

November 1st General Meeting

Steward Observatory Lecture Hall, Room N210, UA Campus, 933 N Cherry Ave.

Introductory Presentation **6:30pm**

Annual Treasurer's Report
presented by
Mike McDowell, TAAA Treasurer

Mike will give TAAA's Annual Treasurer's Report.

Invited Lecture **7:30pm**

Gravitational Waves
presented by
Vern Dunlap,
TAAA Membership Manager

Vern Dunlap, originally from Ohio, holds a degree in Electrical Engineering from the University of Cincinnati. After retiring as a civil servant for Ohio in 2003, he moved to Tucson, where he studied astronomy at UA, and was a tour guide at the Mirror Lab for 13 years. He is TAAA's Membership Manager, as well as a member of the Miami Valley Astronomical Society in Dayton, Ohio, and the Astronomical League. He and his wife Patti have toured the LIGO (Laser Interferometer Gravitational-Wave Observatory) in Hanford, Washington, and Livingston, Louisiana.

Vern will explain what gravitational waves (GW) are, including Einstein's theoretical prediction of their existence, and the history of LIGO, the GW-detection instrument. Vern will discuss the first indirect evidence of GW found in 1974. He will explain how the design and construction of two LIGOs, in the states of Washington and Louisiana, enabled the first direct detection of a GW in 2015. Vern will talk about how astronomers are notified of a GW's detection, so they can find and observe the source. He will conclude with a review of the astronomical results so far discovered, and of the planned GW detectors to supplement LIGO.

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TAAA Constitution and Bylaws Amendments

At the October 4th Member Meeting a vote was taken on the two proposed Amendments to the TAAA Constitution and Bylaws.

Amendment 1: Article II, Section 3, Family Memberships.

FROM: "Family Memberships shall include no more than two adults and any children under the age of 18 in their care."

TO: "Family Memberships shall include domestic partners or married adults and their legal dependents."

Amendment 1 was approved by a two-thirds vote.

Amendment 2: Article V, Section 2, Nomination and Volunteer Resource Committee, part 6.

FROM: "Prepare a slate of candidates for each elective office and publish such slate at least 30 days prior to the election date."

TO: "Prepare a slate of candidates for each elective office and publish such slate prior to the April General Meeting."

Amendment 2 was approved by a two-thirds vote.

Upcoming Activities

This Month's Events

This Month's Events Continued

Key:	TAAA Members Only	For Organization	Public Events
General Meeting Mae Smith	Nov 1 (Fri) Steward Observatory 933 N Cherry	6:30 PM	
Public Star Party Far West Tucson Jim Knoll	Nov 2 (Sat) Ironwood Picnic Area 7300 Hal Gras Rd	6:30 PM	
Outreach Solar Party Sonoita Jim Knoll	Nov 2 (Sat) Empire Ranch Highway 83, MP 39.5	10:00 AM	
Outreach Star Party SE Tucson Jim Knoll	Nov 4 (Mon) Golf Links Library 9640 E Golf Links Rd	5:00 PM	
Outreach Star Party NW Tucson Jim Knoll	Nov 5 (Tue) St Mark's United Methodist Church 1431 W McGee	6:00 PM	
Outreach Star Party SW Tucson Jim Knoll	Nov 6 (Wed) Valencia Library 202 W Valencia	5:00 PM	
Outreach Star Party SE Tucson (Vail) Jim Knoll	Nov 8 (Fri) Vail Academy & High School 7762 E Science Park Dr	5:30 PM	
Outreach Solar Party Central Tucson Jim Knoll	Nov 11 (Mon) Brandi Fenton Park 3482 E River Rd	7:30 AM	
AISIG Meeting Tom Rolfsmeier	Nov 12 (Tue) Total Wine and More 4370 N Oracle Rd	6:30 PM	
AFSIG Meeting (Beginners) Connor Justice	Nov 14 (Thu) USGS Bldg, Rm 253 520 N Park Ave	6:30 PM	

Outreach Star Party NW Tucson Jim Knoll	Nov 15 (Fri) Our Beautiful Savior Lutheran Church 7570 N Thornydale Rd	6:30 PM
SIMSIG Meeting Terri Lappin	Nov 18 (Mon) Meeting Location TBD	6:30 PM
Outreach Solar Party Central Tucson Jim Knoll	Nov 19 (Tue) Keeling Elementary School 2837 N Los Altos Rd	12:30 PM
Outreach Star Party SE Tucson Jim Knoll	Nov 19 (Tue) Ford Elementary School 2837 N Los Altos Rd	5:30 PM
Outreach Star Party NE Tucson Jim Knoll	Nov 20 (Wed) Tanque Verde High School 4201 N Melpomene Way	6:30 PM
Ladies Night Out Susan O'Connor	Nov 21 (Thu) New Delhi Palace 6751 E Broadway Blvd	6:30 PM
CAC Star Party Mike McDowell	Nov 22/23 (Fri/Sat) CAC 9313 E Perseus Way	Sunset
TIMPA Star Party Connor Justice	Nov 23 (Sat) TIMPA 3250 N Reservation Rd	Sunset
Public Star Party NE Tucson Jim Knoll	Nov 23 (Sat) Agua Caliente Park 12325 E Roger Rd	6:30 PM
TIMPA Star Party Connor Justice	Nov 29 (Fri) TIMPA 3250 N Reservation Rd	Sunset

December Member Events	
Dec 6 (Fri)	General Meeting
Dec 9 (Mon)	AISIG Meeting
Dec 11 (Wed)	Board Meeting
Dec 12 (Thu)	AFSIG Meeting
Dec 19 (Thu)	Ladies Night Out

December Outreach Events	
Dec 5 (Thu)	Rivera Elementary School
Dec 11 (Wed)	Murphy-Wilmot Library
Dec 12 (Thu)	Mission Manor
Dec 12 (Thu)	Butterfield Star
Dec 21 (Sat)	Agua Caliente Park
Dec 28 (Sat)	Ironwood Picnic Area

Astronomical Events in Our Community

Below is a list of astronomy presentations in the Tucson area, mostly on the UA campus. For more information, visit the websites listed. Take advantage of these opportunities. Miss an event? Many lectures are available on the web. Visit the listed website to find out.

Date/Time	Speaker	Title	Location	Information
Nov 4 7:30PM	Prof. Michael Lundquist Steward Observatory	<i>There's a New SAGUARO under the Desert Skies: Finding the Sources of Gravitational Waves</i>	Steward Observatory Lecture Hall N210	http://www.as.arizona.edu/public-evening-lecture-series
Nov 12 7:00PM	Dr. Shane Byrne Lunar & Planetary Laboratory	<i>Ice Cores and Climate on an Alien World</i>	Kuiper Space Sciences Lecture Hall, RM 308	https://www.lpl.arizona.edu/calendar/vening-lectures
Nov 18 7:30PM	Dr. Catherine Grier Steward Observatory	<i>The Monsters of the Universe: Supermassive Black Holes and Their Masses</i>	Steward Observatory Lecture Hall N210	http://www.as.arizona.edu/public-evening-lecture-series

Special Interest Group (SIG) Activities

Astronomy Fundamentals SIG (AFSIG)

Meeting: November 14 (Thu) 7:00 PM

USGS Building, Rm 253
520 N Park Ave
Contact: Connor Justice
Group Email: [fundamentals\[at\]tucsonastronomy.org](mailto:fundamentals[at]tucsonastronomy.org)
Leader Email: [Elliot.c.justice\[at\]gmail.com](mailto:Elliot.c.justice[at]gmail.com)

Come join us for a presentation from the fundamentals of amateur astronomy. Connor Justice will start the night with the constellations **Ara** and **Columba**. For our main topic, Vince Baker will be discussing **Atacama Large Millimeter Array**.

The AFSIG is looking for people to present future "Constellation of the Month", whether it is an old favorite or a constellation you would like to learn more about. Also, do you have a topic that would help us become better or more knowledgeable observers? Present it at the AFSIG. Let Connor know, so we can schedule you in. Is there a topic you would like to hear about or do you to present but need help finding a topic? Shoot us an email at [fundamentals\[at\]tucsonastronomy.org](mailto:fundamentals[at]tucsonastronomy.org)

The AFSIG, is for all TAAA members who want to learn about and share the multiple aspects of the hobby. It is not just for beginners or new members.

The USGS Building is on the NE corner of Park and 6th Street. Free parking is available in University parking lots after 5pm. The closest free parking is on the south side of 6th Street. From Sixth Street turn south on Park, turn left into the alley behind The China Pasta House to get into the parking lot. Or, park at the meters, they are also free after 5 PM. Don't park at permit only spaces. There is a fee to park in the Sixth Street parking garage to the east. The meeting room is on the second floor; use the stairway in the central courtyard. An elevator is available on request. Contact Dennis McMacken at 520-609-7860 or email Connor Justice (see above).

Astro-Imaging SIG (AISIG)

Meeting: November 12 (Tue) 7:00 PM

Location: Total Wine and More (4370 N Oracle)
Contact: Tom Rolfsmeyer
Group email: [astro-photo\[at\]tucsonastronomy.org](mailto:astro-photo[at]tucsonastronomy.org)
Leader email: mrolf@earthlink.net

If you are interested in astro-imaging, in being involved in planning, or in learning about it, please participate in these meetings.

TAAA Astro Imaging SIG (AISIG) Meetings usually occur on the 3rd or 4th Tuesday of the month, but the date and time may vary (please check the Events Calendar). We meet at Total Wine and More, 4370 N. Oracle Rd. If you are just getting into imaging the night sky or a veteran astroimager, AISIG is the group to ask questions, share your expertise and present your latest efforts. Best of all, the group decides what topics to address at upcoming meetings.



Starry Messengers SIG-
Opening Minds to the Universe

Meeting: November 18 (Mon) 6:30 PM

Contact: Terri Lappin
Phone: 520-977-1290
Email: smSIG@tucsonastronomy.org

The Starry Messengers will meet at a member's home where we'll be trying some "Martian Soil" experiments that we hope to use during the March 2020 Tucson Festival of Books. Since this is at a member's home, if you want to attend please contact Terri Lappin for the address.

We have had several requests for astronomy demonstrations this fall. We're a small group and not nearly enough of us to cover all the requests. Unfortunately, this means we need to disappoint some kids. We're always in need of additional volunteers to cover the demand for hands-on learning. There are about 50 different activities to choose from and we can provide one-on-one training, or you can learn from a DVD. You'll work with a partner or can work alone once you feel comfortable with an activity. Some requests are for daytime events, but most are in the evenings.

With the support from a generous TAAA member and the Astronomical League, the Starry Messengers have established a loaner telescope program with the Pima County Public Library. Two telescopes are already in place with another two being put into service this month. We are very pleased with the public's response to the program and are told by the librarians that the scopes are always checked out.

Please consider becoming involved with the Starry Messengers SIG. Our special interest is astronomy outreach. We will value your input and your time.

TAAA Ladies Night Out

Thursday, November 21

Great Conversation!

6:30 pm

Delicious Food!

New Delhi Palace

6751 E Broadway Blvd

(N side of Broadway about half-way

between Wilmot and Kolb)

Preview menu at newdelhipalacetucson.com

RSVP Susan @ cyzeh@aol.com

Member Star Parties

The TIMPA observing site is located a few miles beyond the Desert Museum. The CAC observing site is located in southeast Arizona near Sunsites, AZ, about 1.5 hours drive from Tucson. Maps to both sites can be found on the TAAA website. Locked gates protect both sites. Call or email the contact person to learn when the gate will be unlocked.

TIMPA

Nov 23 & 29 (Sat & Fri)

Contact Person: Ralph Means

Email: [fundamentals\[at\]tucsonastronomy.org](mailto:fundamentals[at]tucsonastronomy.org)

Email: bookbuyer1769@gmail.com

Phone: 520-460-8770

The AFSIG hosts the TIMPA star parties. An AFSIG representative will open the gate for an evening of viewing. The Gila Monster Observatory with its Meade 14" Schmidt-Cassegrain telescope will be open for your viewing pleasure. The TIMPA site features a large parking area and full restroom facilities. Be prepared for cool temperatures after sunset. Guests are welcome, accompanied by a TAAA

Chiricahua Astronomy Complex

Nov 22 & 23 (Fri & Sat)

Contact Person/RSVP to: Mike McDowell

Email: [cac-director\[at\]tucsonastronomy.org](mailto:cac-director[at]tucsonastronomy.org)

Phone: 206-356-6624

Chiricahua Astronomy Complex (CAC) is the club's dark observing site, located in Cochise County approximately 100 miles southeast of the center of Tucson. The site includes concrete telescope pads with electricity, a roll-off roof observatory with a Celestron 14" telescope, a picnic Ramada, and a full bathroom facility with shower room. The new Reynolds-Mitchell Observatory includes a 40" telescope and a large warm room. At an elevation of 4800 feet, be prepared for cooler temperatures. Try to arrive before sunset. Our use permit limits the number of attendees at any one time, so reservations and cancellations are required. If you would like to attend, you must contact CAC Director Mike McDowell. Reservations are on a first come – first serve basis. You need to reserve for both nights if observing both nights.

Astronomical League Observing Programs



The Astronomical League Observing Programs are designed to provide direction for your observing, teaching you skills useful for the full enjoyment of our hobby. Each program has a set of requirements. Upon completion of the requirements, you qualify for a certificate and are awarded a pin. This program is only for those who are members of the Astronomical League.

Upon completing the requirements for a program, submit your observations to the TAAA ALCOR. Our ALCOR will review them and then forward them onto the appropriate program coordinator for further review. If they are complete you will be awarded your certificate and pin at one of our meetings.

For more information, ask our ALCOR or visit <http://www.astroleague.org/observing.html>

Our ALCOR is Doug Smith

Beginner Programs

- ◆ Binocular Double Star Program
- ◆ Binocular Messier Program
- ◆ Constellation Hunter Program
- ◆ Dark Sky Advocate Award
- ◆ Deep Sky Binocular Observing Program
- ◆ Galileo Observing Program
- ◆ Lunar Observing Program
- ◆ Messier Observing Program
- ◆ Meteor Observing Program
- ◆ Outreach Observing Award
- ◆ Sketching Observing Award
- ◆ Sky Puppy Program
- ◆ Solar System Observing Program
- ◆ Southern Skies Binocular Program
- ◆ Universe Sampler Program

Intermediate Programs

- ◆ Advanced Binocular Double Star Observing Program
- ◆ Asteroid Observing Program
- ◆ Caldwell Observing Program
- ◆ Carbon Star Observing Program
- ◆ Comet Observing Program
- ◆ Double Star Observing Program
- ◆ Earth Orbiting Satellite Observing Program (EOSOC)
- ◆ Globular Cluster Observing Program
- ◆ Lunar II Observing Program
- ◆ Open Cluster Observing Program
- ◆ Planetary Transit Special Observing Award
- ◆ Southern Skies Telescope Observing Program
- ◆ Sunspotters Observing Program
- ◆ Stellar Evolution Observing Program

Advanced

- ◆ Advanced Binocular Program
- ◆ Analemma Observing Program
- ◆ Arp Peculiar Galaxies Northern Observing Program
- ◆ Asterism Observing Program
- ◆ Bright Nebula Observing Program
- ◆ Dark Nebula Observing Program
- ◆ Galaxy Groups and Clusters Observing Program
- ◆ Herschel 400 Observing Program
- ◆ Herschel II Observing Program
- ◆ Hydrogen Alpha Solar Observing Program
- ◆ NEO Observing Program
- ◆ Occultation Observing Program
- ◆ Planetary Nebula Program Observing Program

TAAA Outreach Events

Members are asked to support these outreach events. Details and maps can be obtained by logging into your Member Planet account. Sign up at a meeting, respond to Jim Knoll's email requests, or pick up the phone. Signing up is important so you can be contacted in case of cancellation. Contact Jim at school-sp-volunteers@tucsonastronomy.org or 520-241-3113. If interested in being an Astronomy Guide and presenting projects from the Night Sky Network Outreach Toolkits, contact Terri Lappin at msig@tucsonastronomy.org.

TAAA Outreach Events (Cont.)

Thank You Volunteers!

Potential Contacts This Month: 1200

Volunteers Needed This Month: 37

Ironwood Picnic Area Public Star Party

Nov 2 (Sat) Set-up: 5:30 PM
Far West Tucson Observing: 6:30 PM to 8:30 PM
Leader: Jim Knoll Volunteers Needed: 3
Cross Streets: Kinney/Gates Pass

We are supporting a public star party at the Ironwood Picnic Area in Tucson Mountain Park. About 50 people attend these regularly scheduled star parties at the Ironwood Picnic Area. This is located at 7300 West Hal Gras Rd, which is off Kinney Road just south of Old Tucson Studios. Setup will be near the restroom facilities, about 3/4 of the way in from Kinney Road. **Two more volunteers with scopes are needed for this event.**

Empire Ranch Cowboy Festival Solar Party

Nov 2 (Sat) Set-up: 9:00 AM Observe: 10:00 AM to 1:00 PM
Set-up: 12:00 PM Observe: 1:00 PM to 4:00 PM
Far West Tucson
Leader: Jim Knoll Volunteers Needed: 2
Cross Streets: AZ HWY 83/Mile Post 40

We are supporting a public solar party at the Empire Ranch Cowboy Festival. There will be a morning and afternoon session. To reach Empire Ranch go east on I-10 to Highway 83. Go south on Highway 83 approximately 18 miles to paved road on left between miles post 40 & 39 (watch for brown Historic Empire Ranch sign). Go east on road and follow for 3 miles to Empire Ranch House. **One more volunteer with a solar scope is needed for either morning or afternoon session.**

Pima County Library Telescope Dedication Star Party

Miller-Golf Links Library
Nov 4 (Mon) Set-up: 4:00 PM
SE Tucson Observing: 5:00 PM to 7:00 PM
Leader: Jim Knoll Volunteers Needed: 2
Cross Streets: Golf Links/Harrison

To celebrate the new telescope at the Miller-Golf Links Library TAAA will be a hosting a star party using the new telescope. The Miller-Golf Links Library is located at 9640 E Golf Links Rd. Go west on Harrison past the Pizza Hut. The library is on the right (north-side). **No more volunteers will be needed for this event.**

St Mark's United Methodist Church Star Party

Nov 5 (Tue) Set-up: 5:30 PM
NW Tucson Observing: 6:00 PM to 7:30 PM
Leader: Jim Knoll Volunteers Needed: 2
Cross Streets: La Canada/Magee

St Mark's is having a Paint the Stars event that the TAAA is supporting. St Mark's is located 1431 W Magee Rd (SW-Corner of Magee and La Canada). **Two volunteers with scopes are needed for this event.**

Pima County Library Telescope Dedication Star Party

Valencia Library
Nov 6 (Wed) Set-up: 4:00 PM
SW Tucson Observing: 5:00 PM to 7:00 PM
Leader: Jim Knoll Volunteers Needed: 2
Cross Streets: South 6th/Valencia

To celebrate the new telescope at the Valencia Library TAAA will be a hosting a star party using the new telescope. The Valencia Library is located at 202 W Valencia Rd. Go west on Valencia to Fiesta Ave. The library is on the right (north-side). **No more volunteers will be needed for this event.**

Vail Academy & High School Star Party

Nov 8 (Fri) Set-up: 5:00 PM
SE Tucson (Vail) Observing: 6:00 PM to 7:30 PM
Leader: Jim Knoll Volunteers Needed: 5
Cross Streets: Kolb/Science Park Dr

Vail Academy and High School is having a star party and NSN Toolkit demonstration for 200 students. The school is located at 7762 E Science Park Dr. From I10 & Kolb go N on Kolb to Science Park Dr and turn E to the school. Set up on the soccer field. **Four volunteers with scopes and one NSN Toolkit volunteer are needed for this event.**

Special Viewing

Transit of Mercury Solar Party @ Brandi Fenton Park

Nov 11 (Mon)
Central Tucson
Leader: Jim Knoll Volunteers Needed: 7
Cross Streets: River/Alvernon
Set-up: 7:00 AM
Observing: 7:30 PM to 11:30 PM

TAAA is supporting a solar party to view the transit of Mercury. In addition there will be NSN Toolkit demonstrations. Brandi Fenton Park is located at 3482 E River Rd. Enter the park at the intersection of River Rd and Alvernon. **Five volunteers with solar scopes and NSN Toolkit volunteers are needed for this event.**

BSA Troop 241 @ Our Beautiful Saviour Lutheran Church

Oct 20 (Sat) Set-up: 6:00 PM
NW Tucson Observing: 6:30 PM to 8:30 PM
Leader: Jim Knoll Volunteers Needed: 2
Cross Streets: Ina/Thornsdale

BSA Troop 241 is having a star party for about 15 members at Our Beautiful Savior Lutheran Church The church is located at 7570 N Thornsdale Rd. Go north on Thornsdale the church is located on the right. The viewing location will be the church parking lot. **Two volunteers with scopes are needed for this event.**

TAAA Outreach Events (Cont.)

Keeling Elementary School (GSSA) Solar Party

Nov 19 (Tue) Set-up: 12:00 PM
 Central Tucson Observing: 12:30 PM to 1:30 PM
 Leader: Jim Knoll Volunteers Needed: 2
 Cross Streets: 1st Ave/Glenn

The Girl Scouts of Southern Arizona are having a solar party at Keeling Elementary School. The school is located at 2837 N Los Altos Rd. From Glenn go north on 1st Ave to E Laguna St turn west on Laguna to Los Altos. Go south on Los Altos to school on the right. Setup on the field. **Two volunteers with solar scopes are needed for this event.**

Ford Elementary School Star Party

Nov 19 (Tue) Set-up: 5:00 PM
 SE Tucson Observing: 5:30 PM to 7:00 PM
 Leader: Jim Knoll Volunteers Needed: 3
 Cross Streets: Golf Links/Pantano

Ford Elementary School is having a star party for 100 students. The school is located at 8001 E Stella Rd. Go south on Pantano from Golf Links and turn east (left) on Stella. The school is just before Lakeside Park. Setup by the flagpole. **Three volunteers with scopes are needed for this event.**

Tanque Verde High School Star Party

Nov 20 (Wed) Set-up: 5:30 PM
 NE Tucson Observing: 6:00 PM to 8:00 PM
 Leader: Jim Knoll Volunteers Needed: 3
 Cross Streets: Tanque Verde/Houghton

The Tanque Verde High School is having a star party for about 100 students. The school is located at 4201 N Melpomene Way. Go north on Houghton to Fort Lowell turn east (right) on Fort Lowell to Melpomene Way and north on Melpomene Way to the school. Setup behind the school. **Two more volunteers with scopes are needed for this event.**

Agua Caliente Park Public Star Party

Nov 23 (Sat) Set-up: 6:00 PM
 NE Tucson Observing: 6:30 PM to 8:30 PM
 Leader: Jim Knoll Volunteers Needed: 4
 Cross Streets: Roger/Soldier Trail

We are supporting a public star party at Aqua Caliente Park. About 50 people attend these regularly scheduled star parties at the Agua Caliente Park. The park is located at 12325 E Roger Road. This is near Soldier Trail. Setup will be at the bus lanes at the north end of parking lot. **Four volunteers with scopes are needed for this event.**



Current Campaign:

November 18 to 27

Visit globeatnight.org

Announcements

- The November **Board of Directors Meeting** will be held on Wednesday, November 13th, at 6:30 PM at Banner UMC Hospital, Room C off the hospital cafeteria. Members are welcome to attend.
- **Have you signed up for Member Planet?** This is where the TAAA Member's Only online information can be found. It's where you can learn about member's events, renew your membership online, renew magazine subscriptions, pay Astronomical League membership dues, and update your contact information. For information about accessing this information through Member Planet, send an email to [membership\[at\]tucsonastronomy.org](mailto:membership[at]tucsonastronomy.org).
- **Immediate need for applicants familiar with WordPress for Webmaster position.** To express interest send name, contact information, which position you are interested in, and list of qualifications to NVRCchair@tucsonastronomy.org
- **Web comments, suggestions or problems**, contact our team at atwebteam@tucsonastronomy.org.
- **Monthly Bulletin** deadlines are the 15th of the preceding month. Email all submissions to [taaa-newsletter\[at\]tucsonastronomy.org](mailto:taaa-newsletter[at]tucsonastronomy.org)
- **Equipment Loaner program.** Contact Ralph Means at elc@tucsonastronomy.org, or 520 460-8770 or bookbuyer1769@gmail.com to check out a telescope, lenses or other equipment. You may try one type or size of telescope, return it, and try another one until you have tested all the scopes in our loaner program. Very helpful for choosing a first telescope or for moving to a new option.

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