

# AAS 237th meeting



# AAS American Astronomical Society

- 8000 membres – astronomes professionnels
- mais quelques 300 amateurs
- 2 réunions annuelles (janvier – juin)
- 237<sup>ème</sup> - Janvier 2021 en virtuel
  - lundi 11 au vendredi 15
  - de 17h à 01h heures belges

# 237<sup>ème</sup> Meeting du AAS

- 3080 participants
- Jusqu'à 30 sessions en parallèle
  - 15 réunions plénières
  - 623 présentations orales (18 en parallèle)
  - 268 posters avec présentations orales
  - 551 posters sans présentations orales
  - 11 réunions de groupe (Town Hall)
  - 71 présentations d'exposants
  - conférences de presse
- plus de 200 heures de conférence enregistrées

# 237<sup>ème</sup> Meeting du AAS

**THIS SCHEDULE IS SUBJECT TO CHANGE**

Time indicated is in the **Eastern Time (ET)** | -1 Central Time (CT) | -3 for PacificTime (PT)

**Friday, January 15, 2021**

<b>11:00 AM</b>	<b>500</b> <b>Plenary:</b> <i>The Role of Magnetic Fields: Galactic Science from HAWC+/SOFIA</i> , David Chuss (Villanova Univ.) <b>11:00–11:50 am ET</b>			
<b>Oral and Special Sessions (SS)</b> <b>12:00–1:30 pm ET</b>				
<b>12:00 PM</b>	<b>501</b> <b>(SS)</b> Dark Energy Survey: New Results and Public Data Release 2 <b>12:00–1:30 pm ET</b>	<b>502</b> <b>(SS)</b> The Prime Focus Spectrograph <b>12:00–1:30 pm ET</b>	<b>503</b> <b>(SS)</b> Astronomy Education in a Rapidly Changing World: BET Practices from Research and Instruction <b>12:00–1:30 pm ET</b>	<b>504</b> AGN and Host Galaxies <b>12:00–1:30 pm ET</b>
	<b>505</b> Extrasolar Planets: Terrestrial Planets <b>12:00–1:30 pm ET</b>	<b>506</b> Astrochemistry 2 <b>12:00–1:30 pm ET</b>	<b>507</b> Planetary Nebulae, Supernova Remnants <b>12:00–1:30 pm ET</b>	<b>508</b> AGN and Quasars 5 <b>12:00–1:30 pm ET</b>
	<b>509</b> Supernovae 3 <b>12:00–1:30 pm ET</b>	<b>510</b> Cosmology 3 <b>12:00–1:30 pm ET</b>	<b>511</b> More Star Formation on Small Scales <b>12:00–1:30 pm ET</b>	<b>512</b> Galaxy Clusters Observations <b>12:00–1:30 pm ET</b>
	<b>513</b> Star and Brown Dwarf Fundamental Properties <b>12:00–1:30 pm ET</b>	<b>514</b> Education and Public Engagement III: TMT <b>12:00–1:30 pm ET</b>	<b>515</b> Stellar Rotation, Variability, and Flares 2 <b>12:00–1:30 pm ET</b>	<b>516</b> Extrasolar Planets: Direct Imaging 2 <b>12:00–1:30 pm ET</b>
	<b>517</b> Novas and Flares <b>12:00–1:30 pm ET</b>		<b>518</b> SMBH Binary Populations and Gravitational Wave Surveys <b>12:00–1:30 pm ET</b>	
<b>Splinter Meetings</b> <b>12:00–1:30 pm ET</b>				
	Supporting Marginalized Students in Astronomy: A Discussion Among Program Leaders on BET Practices and Ongoing Challenges <b>12:00–1:30 pm ET</b>	<b>NASA Cosmic Origins New Science</b> <b>12:00–1:30 pm ET SESSION CANCELLED</b>		
<b>Career Session:</b> Surviving and Thriving in Rejection <b>12:00–1:30 pm ET</b>				
<b>Exhibitor Webinar:</b> Astrov: CCD Data Reduction with ccdproc				

# 237<sup>ème</sup> Meeting du AAS

## ▼ 518. (Oral Session) — SMBH Binary Populations and Gravitational Wave Surveys

Virtual Meeting - Auditorium


### 6 Presentations


- |        |   |
|--------|---|
| 518.01 | NANOGrav limits on supermassive black hole binar...   |
| 518.02 | Mapping The Supermassive Binary Black-Hole Sky ...    |
| 518.03 | Modeling the Population of Gravitational Wave Sou...  |
| 518.04 | Capabilities of Searches for Supermassive Black Ho... |
| 518.05 | Multimessenger Constraints on the Merger Timesc...    |



# 237<sup>ème</sup> Meeting du AAS

## 518.01. NANOGrav limits on supermassive black hole binaries within 500Mpc

 January 15, 2021, 12:00 PM - 12:10 PM

 Virtual Meeting - Auditorium

### Authors

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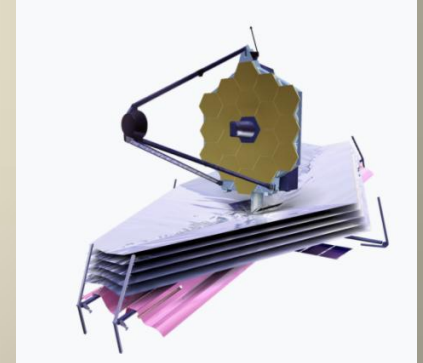
### Abstract

Supermassive black hole binaries (SMBHBs) are a natural consequence of galaxy mergers, and the most promising sources of low-frequency gravitational waves (GWs). The most massive SMBHBs ( $10^8$ - $10^{10}$  Msol) emit nano-hertz GWs and are currently targeted by Pulsar Timing Arrays, like the North American Nanohertz Observatory for Gravitational waves (NANOGrav). We used the most recent NANOGrav dataset to place constraints on putative SMBHBs in  $\sim 200$  massive galaxies within NANOGrav's sensitivity volume ( $\sim 500$ Mpc). For dozens of galaxies the limits are very informative and only very unequal binaries with mass ratio of a few percent are allowed. I will also discuss the first limit on the density of binaries delivered by major galaxy mergers based entirely on GW data.

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## • Sélection de sujets abordés

- Ondes gravitationnelles
  - Trous noirs super massifs
    - <https://skyandtelescope.org/astronomy-news/black-hole-feasts-on-star-bite-by-bite/>
    - <https://skyandtelescope.org/astronomy-news/masquerading-magnetars-give-up-their-secrets/>
  - Ligo, Lisa,
  - **PTA Pulsar Timing Array**
    - <https://skyandtelescope.org/astronomy-news/pulsars-show-hint-of-gravitational-wave-noise/>
- Galaxies, AGN
  - <https://skyandtelescope.org/astronomy-news/most-distant-quasar-supermassive-black-hole-birth/>
- Exo-planètes
- Etoiles, supernova, variables, doubles, ...
- Cosmologie
  - matière et énergie noires
  - **Constante de Hubble – quasars – lentilles gravitationnelles**
    - **H0LiCOW! Cosmology with Gravitational Lens Time Delays**
- Surveys :
  - ASAS-SN,
  - Zwicky Transient Facility
    - <https://www.ztf.caltech.edu/>
- Futurs télescopes spatiaux
  - JWST octobre 2021
  - Nancy Grace Roman 2025
    - <https://www.nasa.gov/content/goddard/nancy-grace-roman-space-telescope>
- etc...



# 238<sup>ème</sup> Meeting du AAS

du 6 au 10 Juin 2021

Anchorage (Alaska)

ou

Virtuel