EURECA
~ JWST Cycle 4 Reflections ~

Lily Whitler, Jake Helton, Jackie Champagne,
Xiaohui Fan, and Friends!

The University of Arizona

Presentations from the 18th JSTUC Meeting Are Now Available!

The 18th Meeting of the JWST Users Committee (JSTUC) was held in person on March 27-28, 2025. The presentations from the 18th JSTUC Meeting are available at this webpage; their topics included:

- Updates from partners.
- Status updates from the JWST Project at GSFC and the Science & Operations Center.
- Cycle 4 grant funding allocation process.
- Pure parallels implementation.
- Pipeline updates.
- Cycle 4 TAC results and plans for Cycle 5.
- Community outreach and plans for summer school.
- JWST user survey results.
- Rocky Worlds DDT update.

More information is available at this webpage.

JWST Cycle 4 Peer Review Results [Link to Presentation]

- **The JWST Cycle 4 deadline was on October 16, 2024 (plus an extra week for hurricane extensions). A total of 2377 submissions were received by this date.**
  - 1 proposal was withdrawn from the review by the PI.
  - 30 proposals found to be non-compliant are excluded from these statistics.
    - 12 proposals were rejected due to dual anonymous violations.
    - 14 were rejected due to page limit violations.
    - 4 were rejected for other reasons.
- **Out of the remaining 2346 proposals, this includes: 2082 GO, 10 Pure Parallels, 50 Survey, 106 Regular Archival Research, 20 Archival Legacy, 88 Theory, 9 Calibration, 4 Cloud Computing, and 15 Data Science Software. A total of 274 proposals were recommended for allocation.**
  - **GO: 1 in 8.6 for proposals and 1 in 8.7 for hours**
  - **AR: 25/217, corresponding to 1 in 8.7 for proposals**
  - **Survey: 8 for 1050 targets recommended; 1 in 6.3 for proposals and 1 in 23 for targets**
- The distribution of instruments recommended for allocation are 40.2% for NIRSpec, 32.5% for MIRI, 20.3% for NIRCam, and 7.1% for NIRISS.
- There are a total of 8512 hours recommended for GO, split between: 1320 hours for Very Small Proposals (≤ 20 hours), 3014 hours for Small Proposals (> 20 and ≤ 50 hours), 2654 for Medium Proposals (> 50 and ≤ 130 hours), and 1524 for Large Proposals (> 130 hours)

JWST Cycle 4 Peer Review Results [Link to Presentation]

- For the proposal selection planning, numerous adjustments were made in order to:
  - Address an unpreceded large number of submissions.
  - Achieve a reduced and more balanced workload and shared of responsibilities.
  - Improve the match of proposal keywords and reviewer's expertise.
- To accomplish this, STScI...
  - Recruited the largest TAC ever assembled and changed the proposals size boundaries.
    - **Executive Committee: 2 EC Chairs and 36 Panel Chairs and Vice Chairs, split into Galactic and Extragalactic.** This committee reviewed Large GO (> 130 hours), Treasury GO, Legacy AR, and Pure Parallels.
    - **183 Discussion Panelists: Distributed into 18 topical panels** These panelists reviewed Small (> 20 and ≤ 50 hours), Medium (> 50 and ≤ 130 hours), ToO, and Surveys. These panelists also provided feedback to Chair/Vice Chair on Executive Committee proposals within their science area (regardless of triage status).
    - **315 External Panelists:** These panelists reviewed Very Small (≤ 20 hours) and Regular AR proposals.
    - **220 Expert Reviewers:** These experts reviewed (but not graded) Executive Committee proposals asynchronously; reviews were made available to the Executive Committee.
  - **Reduced page limits** to decrease reviewer/proposer workload while better aligning with other NASA and community-wide facilities.
  - Updated scientific keywords and scientific categories to better match JWST science topic distributions, and to achieve better proposal distribution across panels.

JWST Cycle 4 Peer Review Results [Link to Presentation]

JWST Cycle 4 Proposal Review Schedule

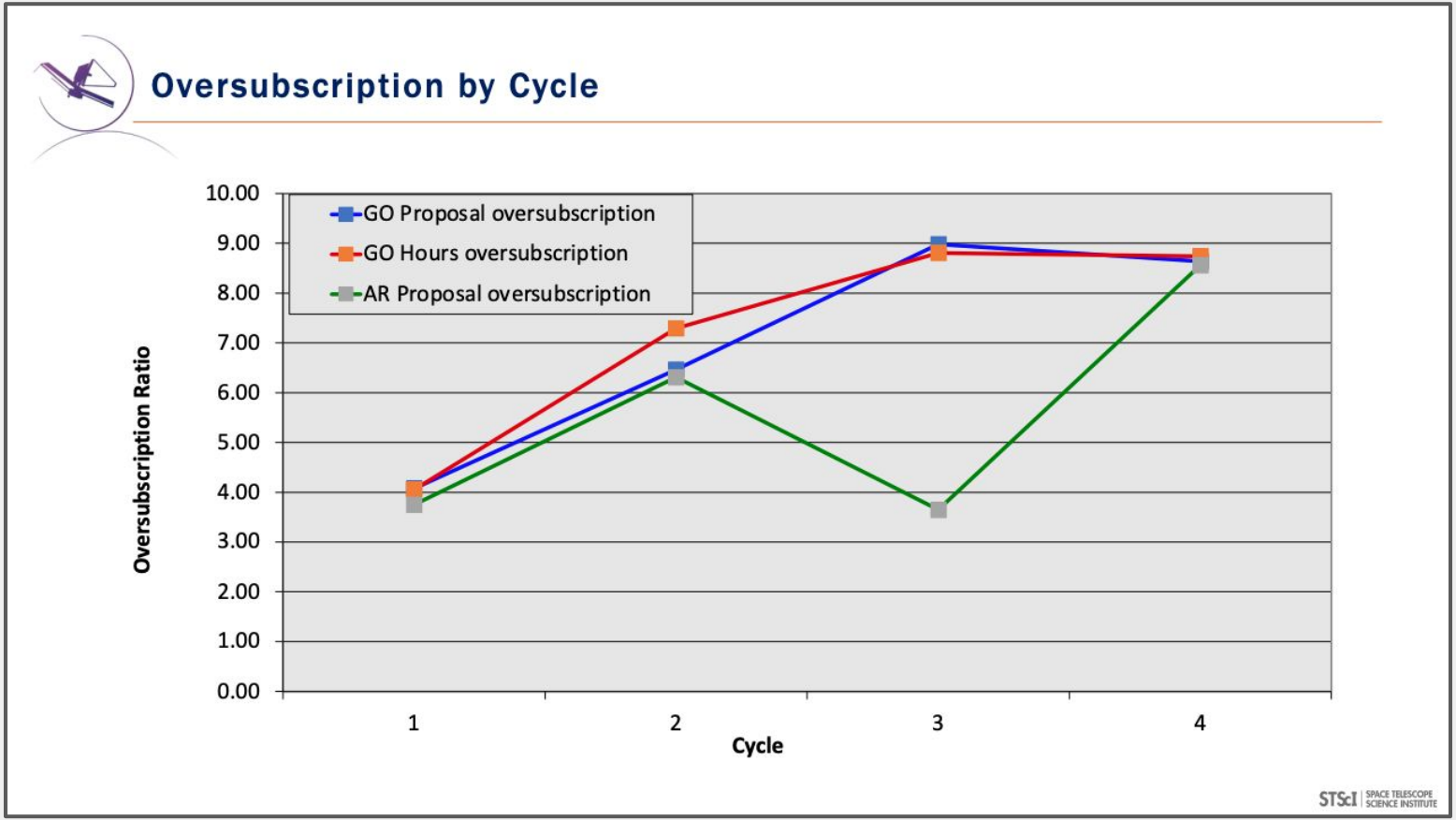
Date	Milestone
October 16, 2024	GO/AR Cycle 4 Proposal Deadline
November 4, 2024	Orientation meeting for Discussion panelists
November 11, 2024	STScI Releases proposals to panelists for review and preliminary grading
January 7, 2025	Executive Committee Orientation
January 10, 2025	Deadline for panelists to submit preliminary grades for their assigned proposals
January 17, 2025	STScI sends each Discussion panelist the list of proposals to be discussed by their panel
February 3 – 7, 2025	Telescope Allocation Committee: Monday – Thursday: ExtraGalactic Panels; Tuesday – Friday: Galactic Panels
February 10 – 13, 2025	Telescope Allocation Committee EC Meetings: Galactic Monday and Tuesday; ExtraGalactic Wednesday and Thursday
February 28, 2025	DO Review of the Cycle 4 Program
~March 15, 2025	PI notification letters are distributed
July 1, 2025	Beginning of Cycle 4 Observations

JWST Cycle 4 Peer Review Results [Link to Presentation]

Executive Summary – Acceptance Rates

Proposal type	Proposals	Hours	Fraction % of Total Observing Time	Over-subscription
Very Small GO	112	1338	16	1 in 7.7
Small GO	86	3014	35	1 in 8.9
Medium GO	35	2701	31	1 in 9.6
Large GO	8	1524	18	1 in 7.9
Surveys	8	1050 (targets)		1 in 6 for Props and 1 for 23 for Targets
Regular AR	15	-	-	1 in 7.7
Theory AR	8	-	-	1 in 11
Legacy AR	2	-	-	1 in 10

JWST Cycle 4 Peer Review Results [Link to Presentation]



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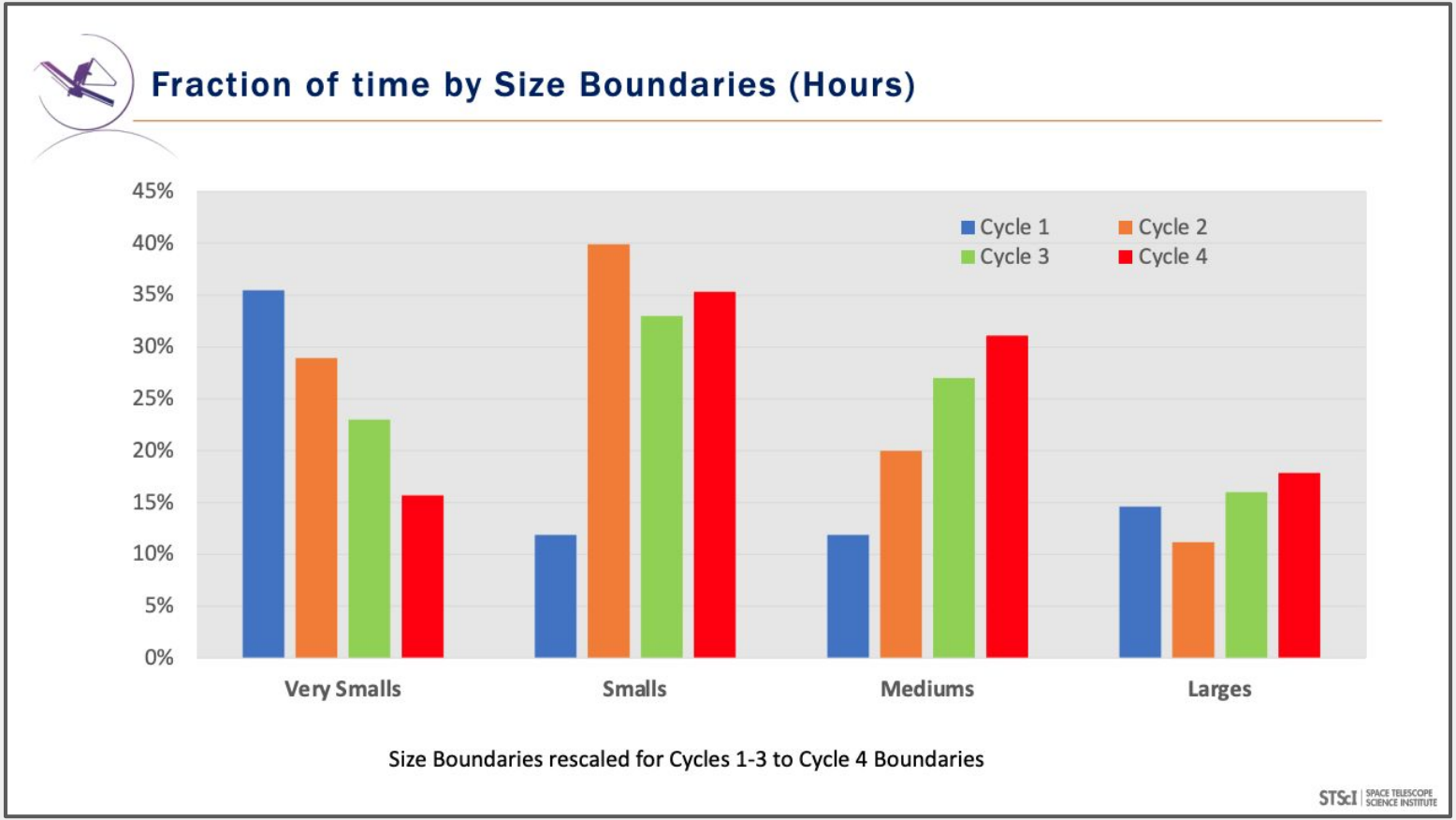

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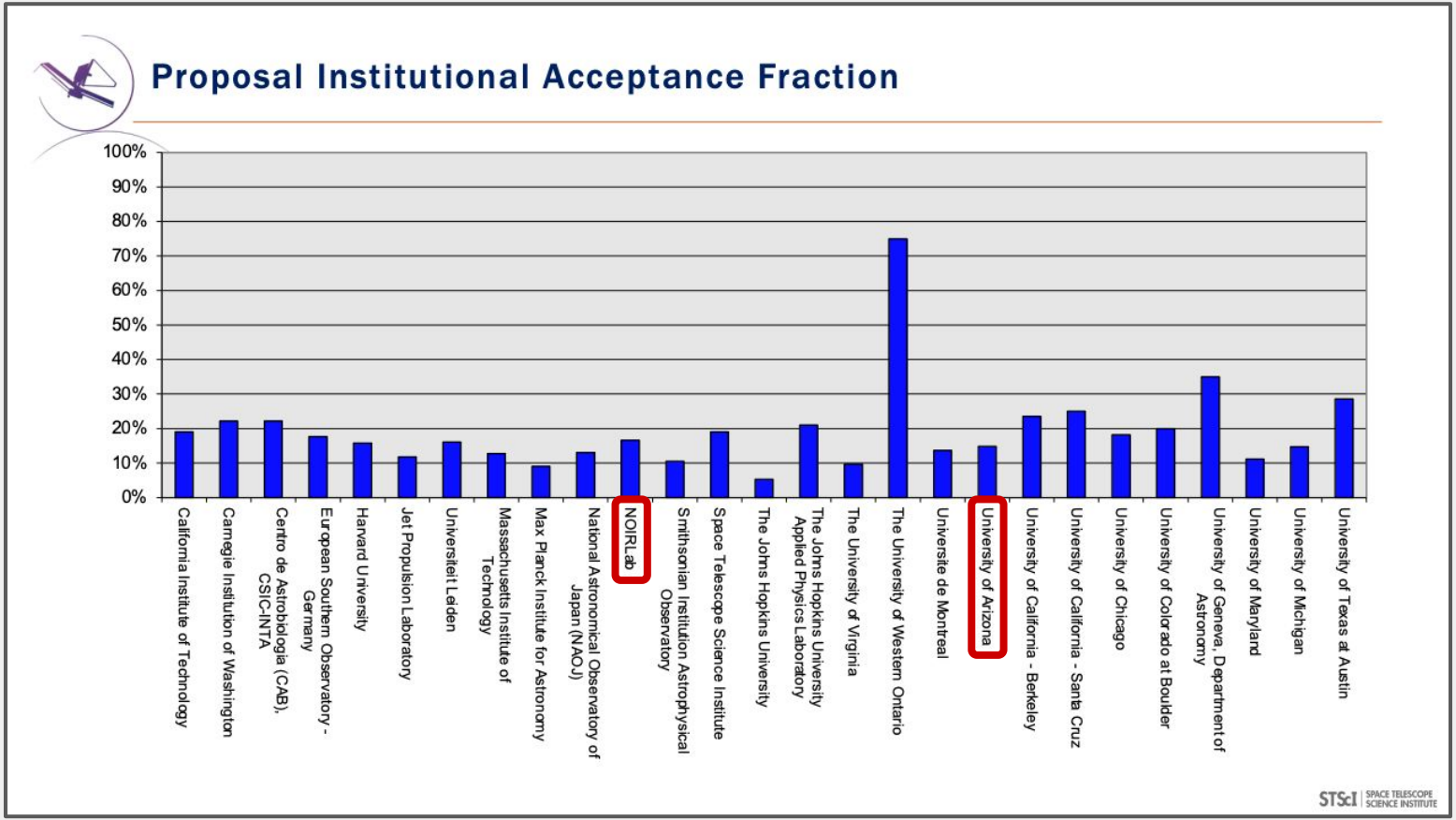

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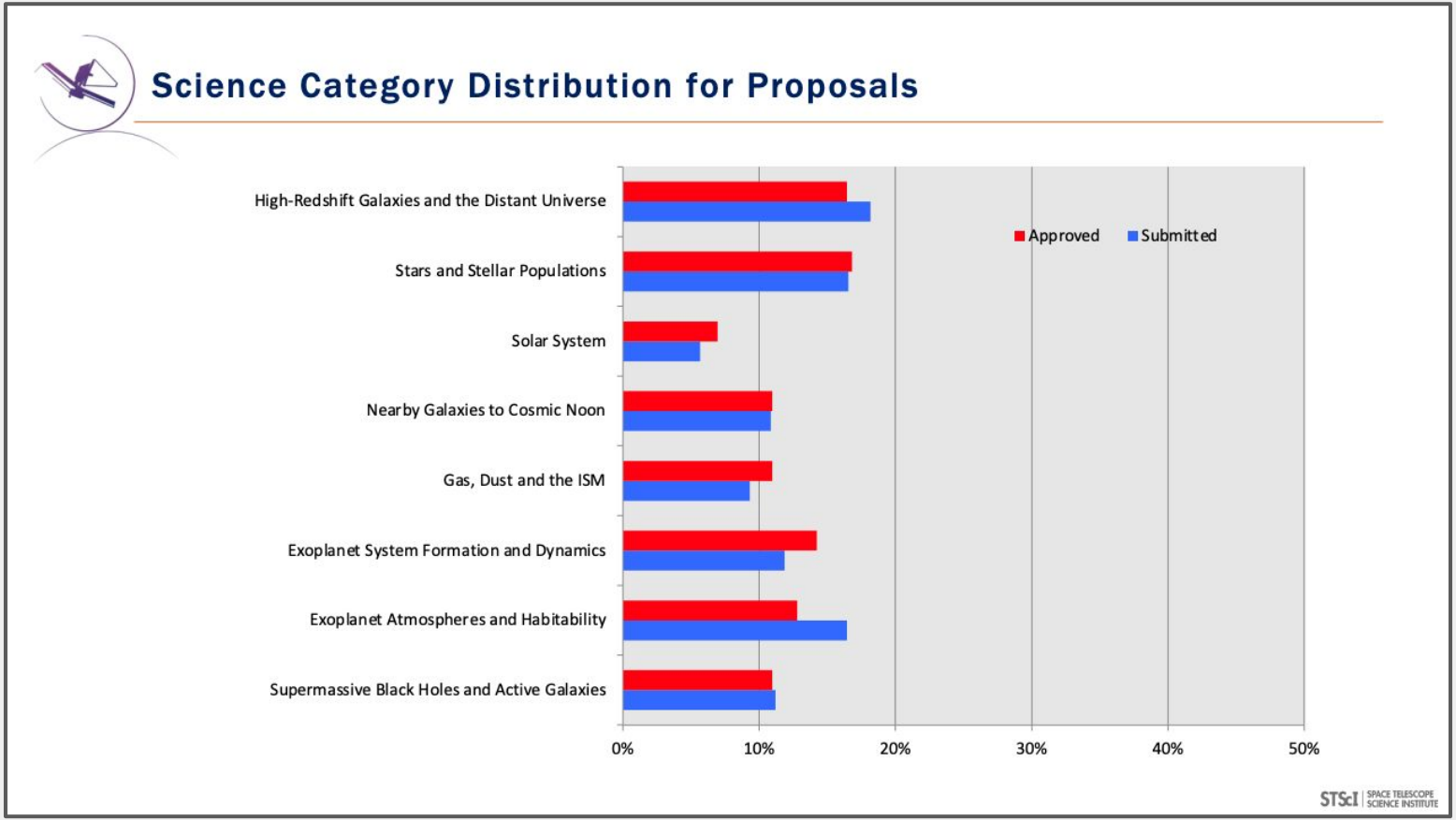

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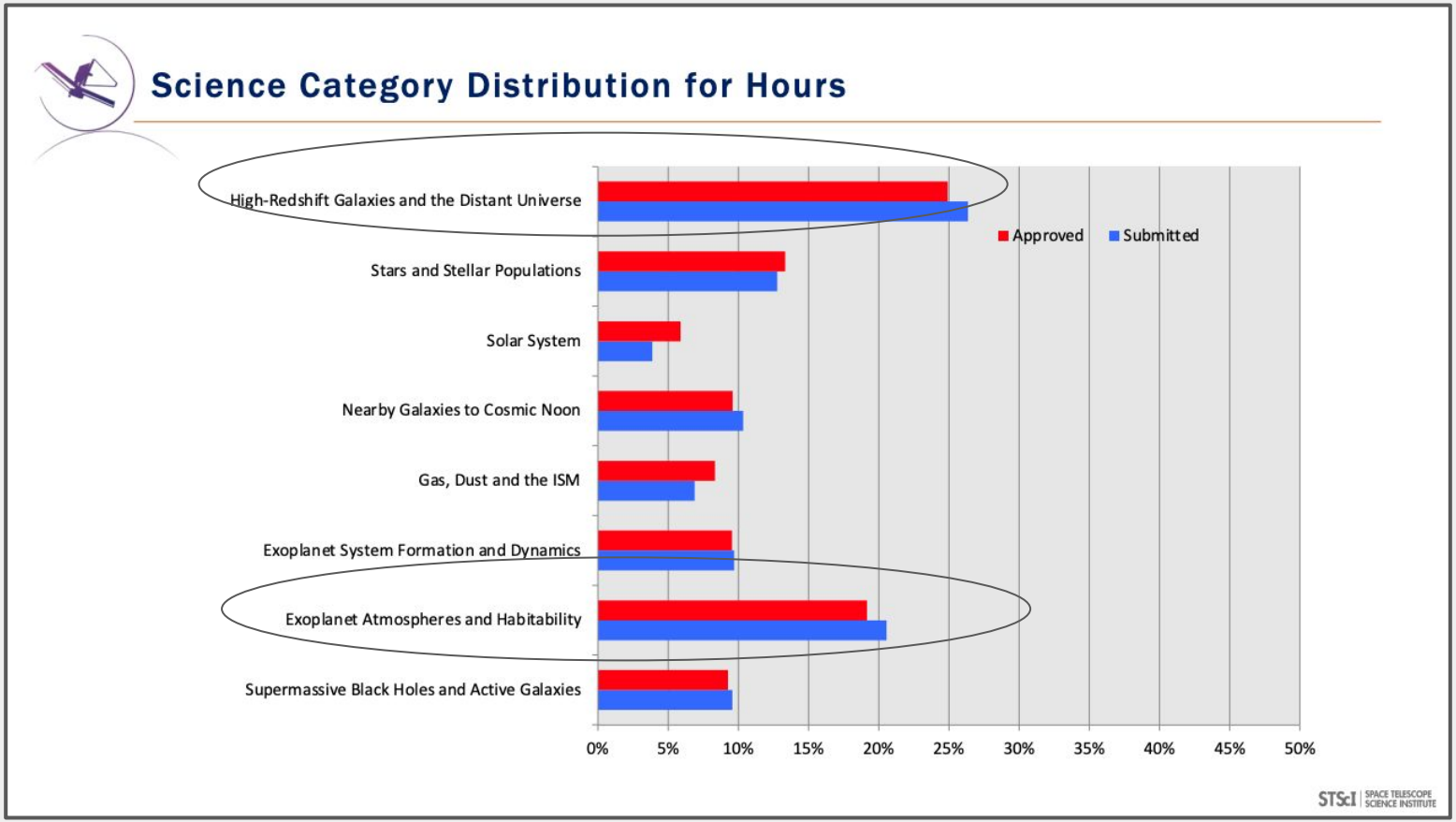

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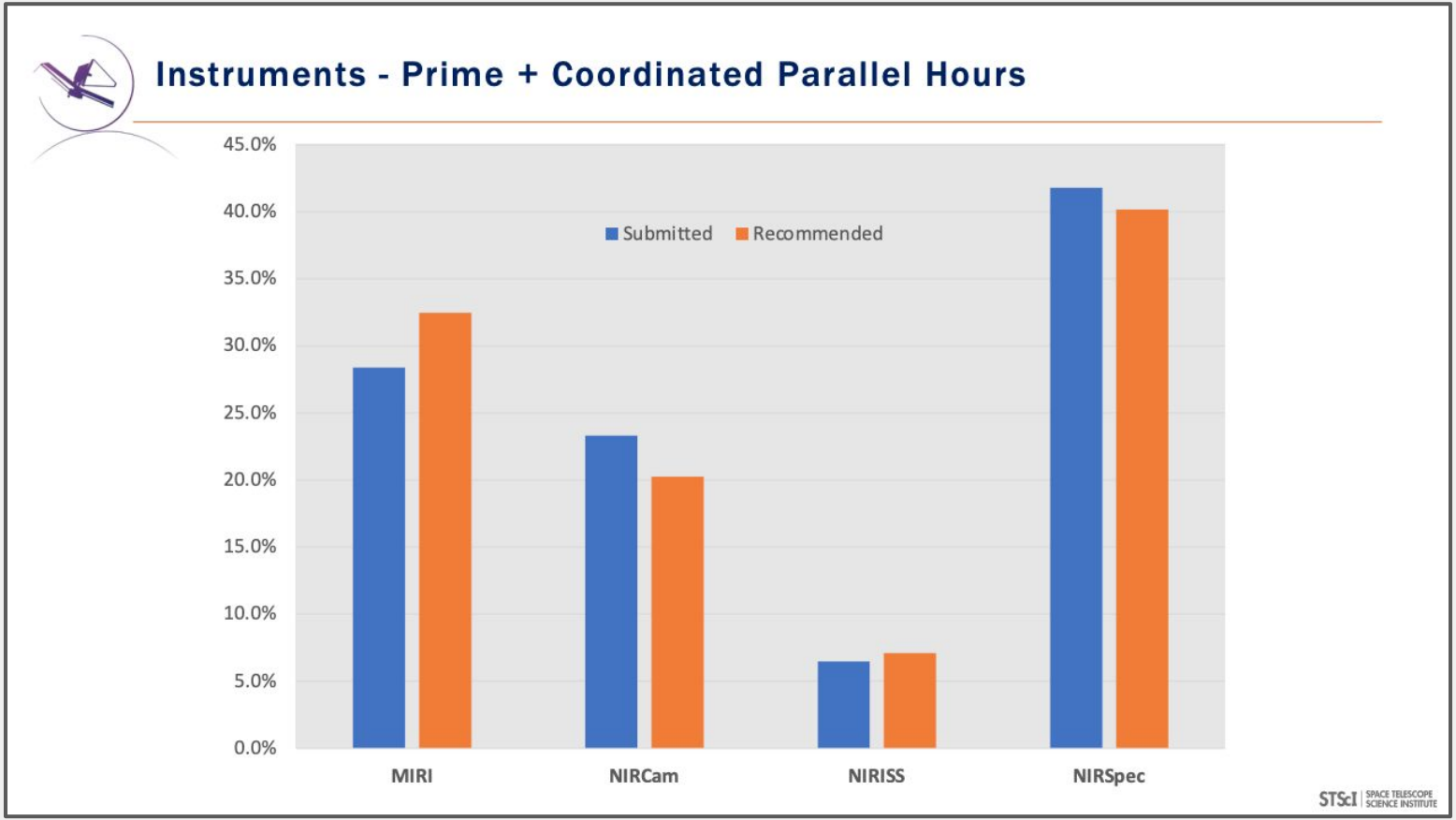

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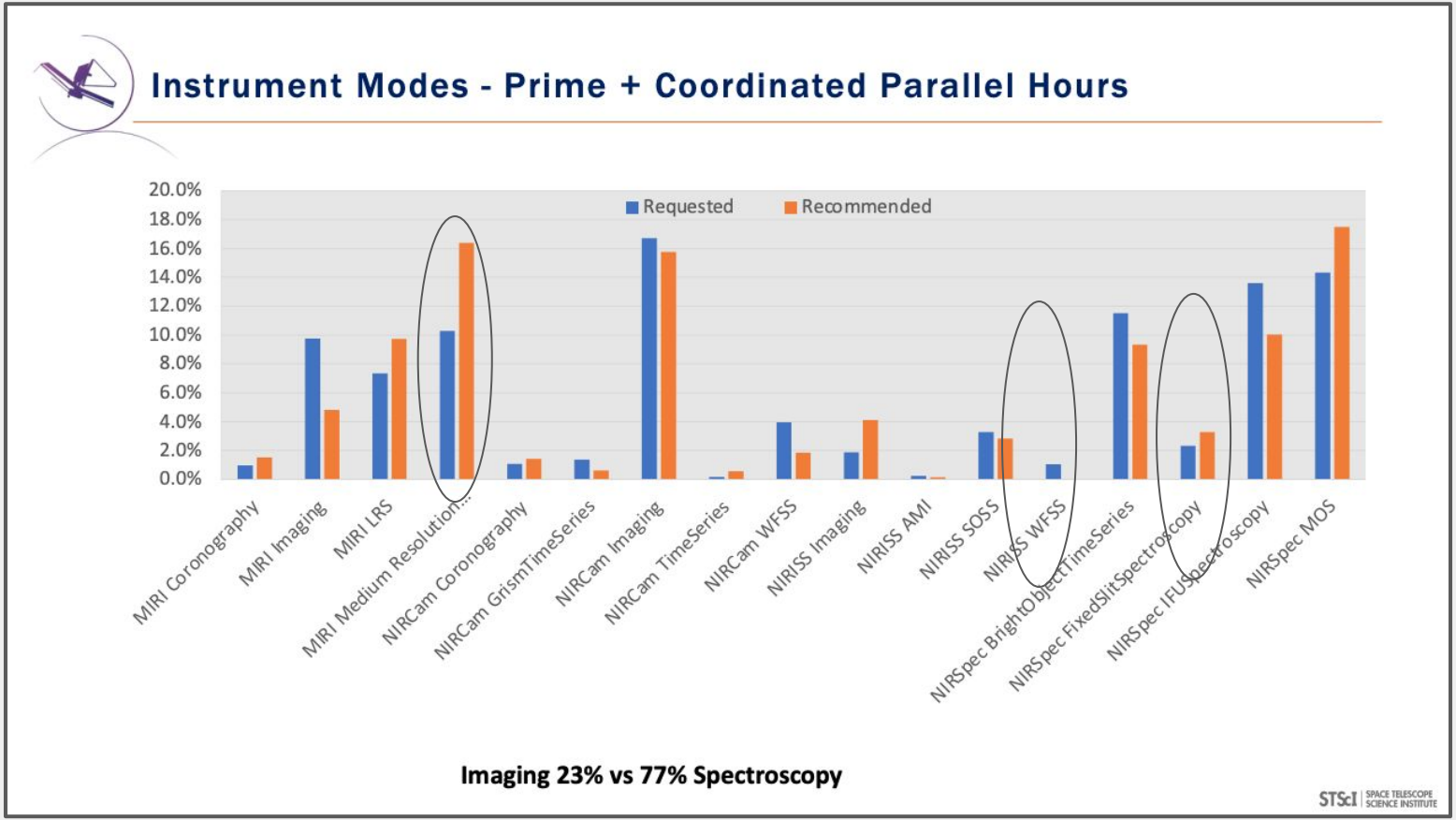


JWST Pure Parallel Programs Update [Link to Presentation]

Approved pure parallel programs

Cycle	Program	Category	Title
1	1571	Galaxies	PASSAGE--Parallel Application of Slitless Spectroscopy to Analyze Galaxy Evolution
1	2211	Solar System	A pure parallel survey of water in the asteroid belt
1	2514	Galaxies	PANORAMIC -- A Pure Parallel Wide Area Legacy Imaging Survey at 1-5 Micron
2	3383	Galaxies	JWST Wide Area 3D Parallel Survey
2	3990	Galaxies	A NIRCam Pure-Parallel Imaging Survey of Galaxies Across the Universe
2	4681	Galaxies	JWST Wide Area 3D Parallel Survey
3	5398	Galaxies	POPPIES: The Public Observation Pure Parallel Infrared Emission-Line Survey
3	6434	Galaxies	SAPPHIRES: Slitless Areal Pure-Parallel High-Redshift Emission Survey
4	n/a	n/a	No pure parallel programs approved by the Cycle 4 TAC

Pure parallel overheads

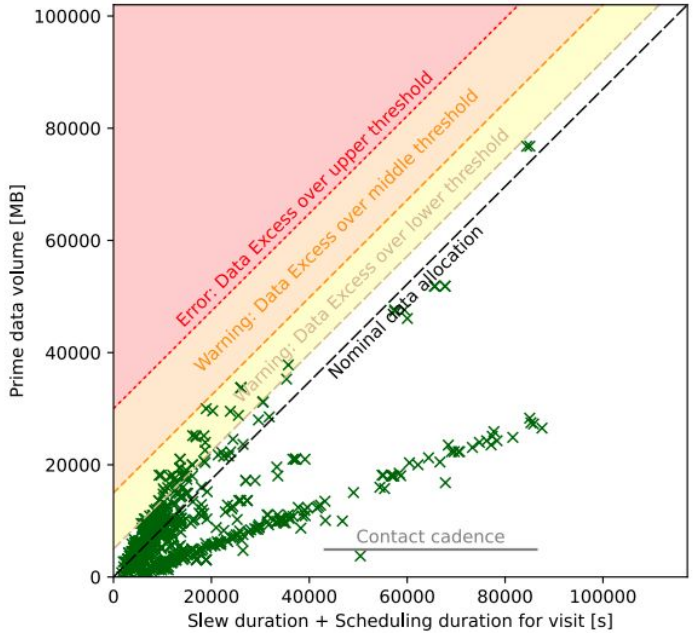
- Overhead (in seconds) for each pure parallel visit

Pure parallel template	Onboard scripts	Mechanisms	Total
NIRCam Imaging	21 * nexp + 4	186	21 * nexp + 190
NIRCam Wide Field Slitless Spectroscopy	21 * nexp + 4	186	21 * nexp + 190
NIRISS Wide Field Slitless Spectroscopy	18 * nexp + 6	64	18 * nexp + 70

- nexp = number of pure parallel exposures ≈ number of prime dithers
- One pure parallel visit can attach to one prime optical configuration
- We now model this overhead because visits took longer than planned
- Pure parallel overheads for Cycles 1-3:
  - Onboard scripts: 50.5 hours, Mechanisms: 80.1 hours, **Total: 130.6 hours**

JWST Pure Parallel Programs Update [Link to Presentation]

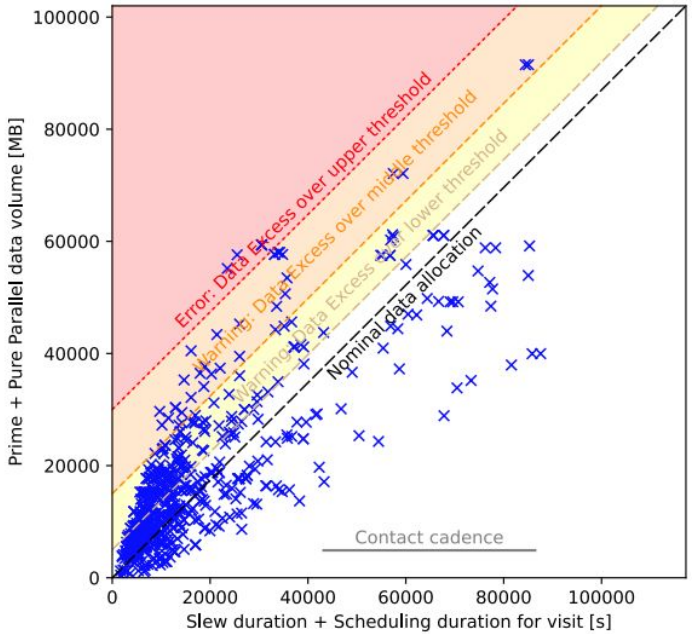
Data excess for primes **before** pure parallels were attached



- Cycles 1-3
- A small fraction of visits are in the yellow warning zone
- No visits are in the orange warning or red error zones
- Schedulers don't have to worry about data piling up
- Schedulers can focus on all the other issues, e.g. time-constrained planet transits, skipped visits, …

JWST Pure Parallel Programs Update [Link to Presentation]

Data excess for primes **after** pure parallels were attached



- Cycles 1-3
- Many visits are in the yellow warning zone
- A small fraction of visits are in the orange warning zone
- A few visits are in the red error zone
- Schedulers also have to worry about data piling up, phasing the plan with DSN contacts, which can change

JWST Cycle 5 Timeline, Major Milestones [Link to Presentation]

August 1, 2025: Call for Proposals released.

October 15, 2025: JWST Cycle 5 Proposal Deadline.

Roughly November 12, 2025: Proposals are released to panelists.

February 2-5 or 3-6, 2026: TAC Discussion Panels will be meeting.

February 9-10 or 11-12, 2026: TAC Executive Committees will be meeting.

Roughly February 26, 2026: Director's office will review the JWST Cycle 5 program.

Roughly early- to mid-March, 2026: PI notification letters are distributed.

July 1, 2026: Beginning of JWST Cycle 5 observations.

Topic: Large Programs [Lily Whitler]

From STScI: “>130 hour programs, Treasury, Legacy, and large Pure Parallels” that were reviewed by the Extragalactic Executive Committee – this may have some overlap with scientific topics (sorry). Only three programs formally considered Large and one almost Large program, and as already mentioned, no pure parallels.

Topic: Large Programs [Lily Whitler]

Almost a Large program, but not quite:

- **GO 8051** (128.9 hours, PI Javier Alvarez-Marquez): MIRI Spectroscopic survey at z~10: Insights into the Nature of Primordial Galaxies
  - MIRI LRS follow up of ten galaxies at z~10 for rest-optical emission lines

Topic: Redshift Frontier [Jake Helton]

There are two primary flavors of proposals:

1. **Spectroscopically confirming new galaxies at the redshift frontier.**
   a. PID 6793: NIRSpec/PRISM spectroscopy targeting 10 F200W-dropout galaxies at $z \sim 15$-20.
   b. PID 6954: NIRSpec/PRISM spectroscopy targeting the most robust and luminous $z = 15$ galaxy candidate.
   c. PID 7208: NIRSpec/PRISM spectroscopy of the most luminous galaxy candidates at $z > 9$; selected from a total sample of 123 galaxies from all existing prime and pure-parallel JWST imaging surveys.
   d. PID 7417: NIRSpec/PRISM spectroscopy of the most luminous galaxy candidates at $z > 10$; 30 galaxies will be observed and are selected from a total sample of 50 galaxies from COSMOS-Web.
2. **Spectroscopically following-up new galaxies at the redshift frontier.**
   a. PID 7078: MIRI/MRS spectroscopy of GHZ2/GLASS-z12, which is the highest redshift AGN candidate.
   b. PID 7201: NIRSpec/G235H and NIRSpec/G395H spectroscopy of GHZ2/GLASS-z12.
   c. PID 9016: NIRSpec/G235M spectroscopy of JADES-GS-z14-0.
   d. PID 9214: NIRSpec/G140M, NIRSpec/G235M, and NIRSpec/G395M spectroscopy (i.e., all three gratings) for the majority of spectroscopically confirmed $z > 9$ galaxies selected from JWST.
   e. PID 8051: MIRI/LRS spectroscopy for 10 galaxies at $z > 9$ that have been spectroscopically confirmed.
   f. PID 8544: MIRI/LRS spectroscopy of JADES-GS-z14-0.
   g. PID 9165: MIRI/LRS spectroscopy and/or MIRI/Imaging for 7 of the most luminous $z > 10$ that have been spectroscopically confirmed with JWST (including GN-z11 and GHZ2/GLASS-z12).

Topic: Redshift Frontier [Jake Helton]

ID	Program Title	PI (and Co-PIs)	Exclusive Access Period (months)	Prime and Parallel Time (hours)	Instrument/Mode
6793	Spectroscopic Verification of Robust $z > 15$ Galaxy Candidates Selected with Multiple Medium-Band Datasets	PI: Yuichi Harikane	12	81.2/0.0	NIRSpec/MOS
6954	Spectroscopic confirmation of the most robust $z = 15$ galaxy candidate	Callum Donnan (Derek McLeod)	12	5.9/0.0	NIRSpec/FS
7208	THRIFTY: The High-RedshIft FronTier surveY	Romain Meyer	12	2.0/0.0	NIRSpec/IFU
7417	Brightest & Farthest: Confirming intrinsically luminous $z = 10$-12 Galaxies in COSMOS	Caitlin Casey (Hollis Akins & Maximilien Franco)	12	47.6/17.6	NIRSpec/MOS and NIRCam/Imaging

Topic: Redshift Frontier [Jake Helton]

ID	Program Title	PI (and Co-PIs)	Exclusive Access Period (months)	Prime and Parallel Time (hours)	Instrument/Mode
7078	On the search for a primeval black hole in a spectroscopically-confirmed galaxy at z = 12.3	Ikki Mitsuhashi	12	49.1/0.0	MIRI/MRS
7201	A deep look into the physics of the interstellar medium 360 Myr after the Big Bang	Marco Castellano (Jorge Zavala)	12	28.7/0.0	NIRSpec/MOS
9016	Galaxy Formation at The Redshift Frontier: Ultra-Deep NIRSpec Observations of z > 13 galaxies	Daniel Stark	12	55.8/0.0	NIRSpec/MOS
9214	Unlocking the nature of the first galaxies with ultra-deep rest-UV spectroscopy	Charlotte Mason (Daniel Stark)	0	179.8/0.0	NIRSpec/MOS

Topic: Redshift Frontier [Jake Helton]

ID	Program Title	PI (and Co-PIs)	Exclusive Access Period (months)	Prime and Parallel Time (hours)	Instrument/Mode
8051	JWST/MIRI Spectroscopic survey at z = 10: Insights into the Nature of Primordial Galaxies	Javier Alvarez-Marquez (Luis Colina Robledo)	6	128.9/0.0	MIRI/LRS
8544	Rest-Frame Optical Nebular Emission Lines at Cosmic Dawn: MIRI/LRS Follow-Up for JADES-GS-z14-0	Jakob Helton	0	62.6/0.0	MIRI/LRS
9165	Does Bursty Star Formation Explain the Astonishing Abundance of Bright z > 10 Galaxies?	Ryan Endsley (Daniel Stark)	12	57.1/0.0	MIRI/LRS and MIRI/Imaging

Topic: Surveys of Galaxies [Maria Pudoka]

- What is a survey?
  - Only 1 “Real” High-z Galaxy Survey in Cycle 4:

123 z>9 galaxies from all JWST imaging surveys to date

7208	THRIFTY: The High-RedshIft FronTier surveY	PI: Romain Meyer	12	2.0/0.0	NIRSpec/IFU	Survey

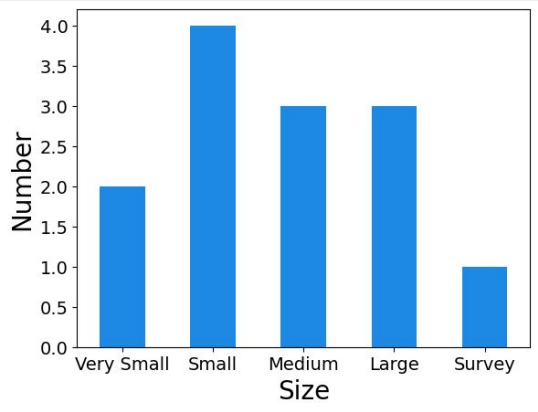
- Defining it as extra deep or wide fields significantly overlaps with “Large” and “Redshift Frontiers”
  - If there were over 100 galaxy targets, I looked at the proposal (~12)
    - 10/12 have at least one Arizona person on it!

6882	Vast Exploration for Nascent, Unexplored Sources (VENUS)	PI: Seiji Fujimoto Co-PIs: Dan Coe
7511	Sleeping Beauties: On the Search for Dormant Galaxies in the First Gyr	PI: Alba Covelo-Paz Co-PIs: Pascal Oesch
7519	How do dark matter halos connect with supermassive black holes and their host galaxies?	PI: Junya Arita
7814	MINERVA: Unlocking the Hidden Gems of the Distant Universe and Completing HST and JWST's Imaging Legacy with Medium Bands	PI: Adam Muzzin Co-PIs: Danilo Marchesini and Katherine Suess

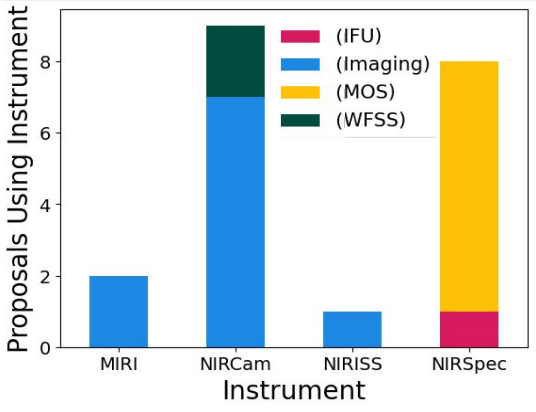
8018	DIVER: Deep Insights into UV Spectroscopy at the Epoch of Reionization	PI: Xiaojing Lin
8060	JWST Multi-Cycle Deep Transient Survey in GOODS-S	PI: Eiichi Egami Co-PIs: Roberto Maiolino and Armin Rest
8410	A Census of Galaxy Kinematics and Outflows to z ~ 7	PI: Raymond Simons
8559	SPAM: Star-formation from Photometry through the Addition of Medium-bands	PI: Kelcey Davis Co-PIs: Rebecca Larson

9214	Unlocking the nature of the first galaxies with ultra-deep rest-UV spectroscopy	PI: Charlotte Mason Co-PIs: Daniel Stark
6827	From Dawn till Noon: Chronicling the Cosmic History of Black Hole Growth	PI: Anna-Christina Eilers
7417	Brightest & Farthest: Confirming intrinsically luminous z~10-12 Galaxies in COSMOS	PI: Caitlin Casey Co-PIs: Hollis Akins and Maximilien Franco
7935	Efficient Measurement of the Emergence Rate of AGN in Legacy Deep Field	PI: Fengwu Sun Co-PIs: Xiaojing Lin

Topic: Surveys of Galaxies [Maria Pudoka]

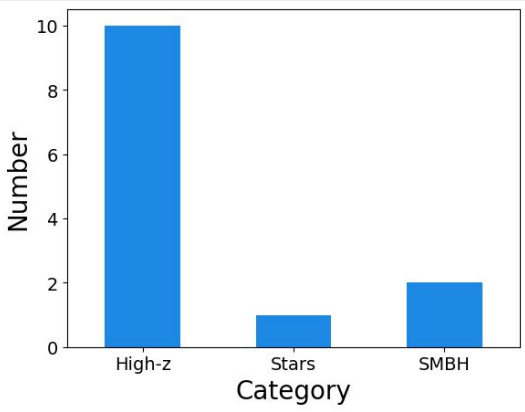


Very Small programs can still go a long way!



½ MIRI used in parallel

NIRISS only used in parallel



Don't underestimate other science categories :)

(Extremely) Rough Summaries: https://docs.google.com/spreadsheets/d/1Ex9X5CHg2LA1CU7qowDxJHbEk-yrcnAxdBidjek0DHo/edit?gid=0#gid=0

Topic: Surveys of Galaxies [Maria Pudoka]

- Lots of Followup - Not a ton of True blind surveys
  - People really itching for real spec-z or at least reliable photo-z (medium filters)
  - GO#6882: 45 new lensing fields with 10 NIRCam filters! (0.16 deg2 to 28 mag 5σ)
  - GO#7417: COSMOS-Web folks looking at 30 bright z~10-12 candidates **+2700 filler galaxies** with NIRSpec
  - GO#7511: 45 post-starbust galaxies from CONGRESS/FRESCO **+115 “other” galaxies** with NIRSPec
  - GO#7814: 8 filter medium band + 2 miri of PRIMER+CEERS fields (~28 mag 5σ)
  - GO#7935: Fengwu’s NIRSpec followup of 842 galaxies in GOODS-N to find z~4-9 AGN
  - GO#8060: Eiichi’s transient program - observe JADES GOODS-S deep field 3 times for three years - get down to 29-30 mag (5σ) in 6 NIRCam filters
  - GO#8559: 9 medium+1wide NIRCam filters on CEERS ERS (~100 arcmin2)

(Extremely) Rough Summaries: https://docs.google.com/spreadsheets/d/1Ex9X5CHg2LA1CU7qowDxJHbEk-yrcnAxdBidjek0DHo/edit?gid=0#gid=0

Topic: Surveys of Galaxies [Maria Pudoka]

- Science:
  - Confirming Luminous z>9 galaxies
    - Constraining the (bright end) LFs at high-z
  - Faint AGN ~ as expected
  - Some AGN vs stellar ionization constraints (LRDs)
  - Bursty star formation + SFRs/SFHs
- Takeaways:
  - **NIRSpec/MOS** can be used for a huge amount bright candidates for relatively cheap
  - People are seeing the importance of **medium band filters** to better constrain SEDs
  - Arizona people have a broad reach :)

(Extremely) Rough Summaries: https://docs.google.com/spreadsheets/d/1Ex9X5CHg2LA1CU7qowDxJHbEk-yrcnAxdBidjek0DHo/edit?gid=0#gid=0

Topic: Properties of Galaxies [Weizhe Liu]

Massive (quiescent/dormant) galaxies:

confirm stellar mass, redshift, quiescence, search for more extreme cases

7488	Echoes of Silence: Absorption Line Spectroscopy of a Massive Quiescent Galaxy at z=7.3	PI: Andrea Weibel	12	14.1/0.0	NIRSpec/MOS	GO
8047	Extremely massive galaxies in the early universe? Confirming the nature of the most model-breaking object by hunting for stellar absorption features	PI: Bingjie Wang Co-PIs: Erica Nelson	12	19.6/0.0	NIRSpec/MOS	GO
8915	In Search of Siblings: Spectroscopic Follow-Up of a Candidate Massive Quiescent Galaxy at z ~ 7	PI: Andrea Weibel	12	4.2/0.0	NIRSpec/MOS	GO

Blue UV color typical for LBG but without rest-optical emission lines like Ha

7511	Sleeping Beauties: On the Search for Dormant Galaxies in the First Gyr	PI: Alba Covelo-Paz Co-PIs: Pascal Oesch	12	19.1/9.7	NIRCam/Imaging NIRSpec/MOS	GO

Topic: Properties of Galaxies [Weizhe Liu]

ISM conditions (Metallicity, ionization, density, etc):

More accurate metallicity, anomalous abundance patterns, ISM conditions from rest-frame UV lines and NIR lines

6796	Resolving Multi-phase Outflow/Inflow via Gas Dynamics and Chemical Abundance Distribution in a Sub-L* Dwarf Galaxy at z=6.1	PI: Seiji Fujimoto Co-PIs: John Chisholm	6	60.7/0.0	NIRCam/Imaging NIRSpec/MOS	GO
7081	A Race Against the Clock: Too Much Nitrogen, Too Early?	PI: Danielle Berg	12	25.8/0.0	NIRSpec/MOS	GO
7729	Unveiling Early Cosmic Enrichment: Direct Metallicities in z>6 Galaxies from Deep JWST Spectroscopy	PI: Guido Roberts-Borsani	12	67.2/0.0	NIRSpec/MOS	GO
8018	DIVER: Deep Insights into UV Spectroscopy at the Epoch of Reionization	PI: Xiaojing Lin	0	19.0/0.0	NIRSpec/MOS	GO
9026	An extraordinary z=4.4 starburst as a detailed astrophysical laboratory to solve Cosmic Dawn mysteries	PI: Ryan Sanders	12	9.8/0.0	MIRI/MRS	GO

Topic: Properties of Galaxies [Weizhe Liu]

Kinematics and outflow/inflow:

6796	Resolving Multi-phase Outflow/Inflow via Gas Dynamics and Chemical Abundance Distribution in a Sub-L* Dwarf Galaxy at z=6.1	PI: Seiji Fujimoto Co-PIs: John Chisholm	6	60.7/0.0	NIRCam/Imaging NIRSpec/MOS	GO
7335	Forever Blowing Bubbles: What Powers a 24-kpc Ionized Gas Nebula Around a Normal Galaxy at z=6?	PI: Francesco D'Eugenio Co-PIs: Kevin Hainline	12	14.2/0.0	NIRSpec/IFU	GO
8410	A Census of Galaxy Kinematics and Outflows to z ~ 7	PI: Raymond Simons	0	65.3/44.7	NIRCam/Imaging NIRSpec/MOS	GO

A unique prioritization scheme to maximize the number of galaxies that are aligned (for spatially-resolved kinematics) or perpendicular (for spatially-resolved winds) with the NIRSpec mask—increasing the scientific efficiency of this program by a factor of two.

Topic: Properties of Galaxies [Weizhe Liu]

massive stars / pop III stars / star clusters

8792	Unlocking the massive stars behind the most spectacular fireworks displays in the early Universe	PI: Peter Senchyna	12	81.7/0.0	NIRSpec/MOS	GO

Deep rest-frame FUV spectrum of a galaxy with highly-ionized, nitrogen-enriched to unveil the massive stars underlying the nebula emission

7049	A Unique Opportunity to Probe Lensing-Magnified Star Clusters in a Low-Mass Galaxy at z_spec=8.3 with JWST	PI: Lamiya Mowla Co-PIs: Kartheik Iyer	12	50.0/0.0	NIRSpec/IFU	GO
7014	Searching for Population III stars around massive interacting galaxies in the reionization epoch	PI: Antonello Calabro'	12	62.8/0.0	NIRSpec/IFU	GO

Topic: Properties of Galaxies [Weizhe Liu]

Other a bit more unique programs

8512	Dissecting ?Coalescence of Primeval Galaxies	PI: Daichi Kashino	12	25.1/0.0	NIRSpec/IFU	GO

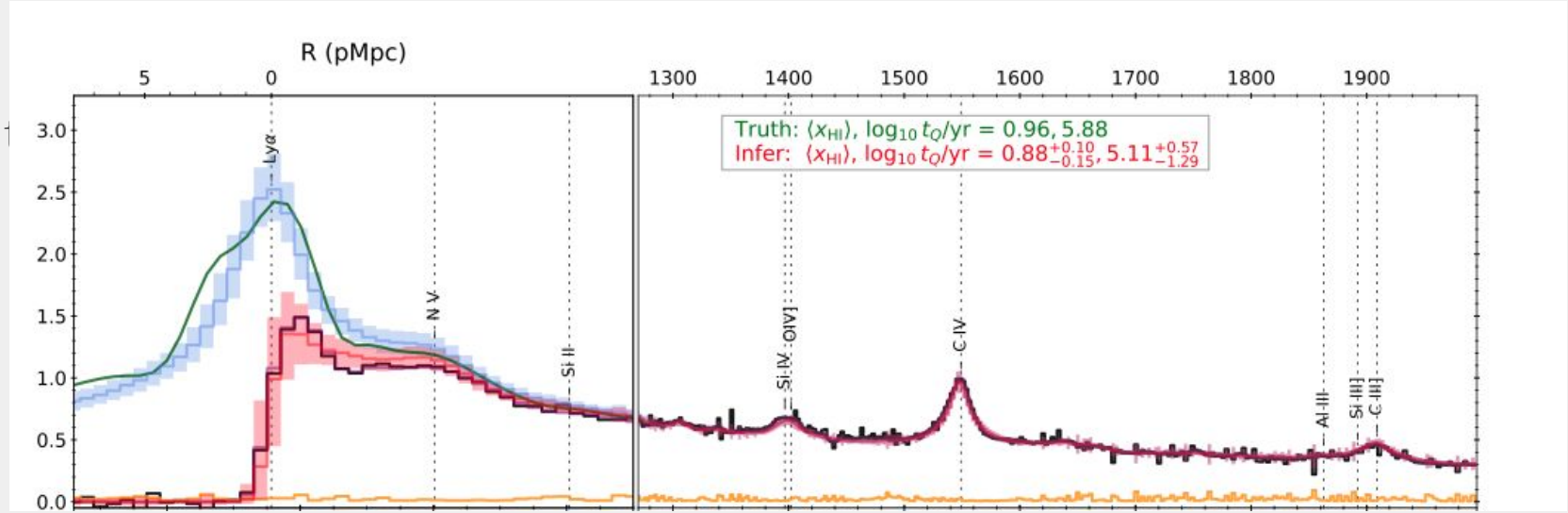
Examine z~6 galaxies composed of many distinct clumps

7390	Probing Pair-Instability Supernovae through the Triply-lensed MACS0647-JD at z=10.17	PI: Yunjing Wu Co-PIs: Zheng Cai and Fengwu Sun	12	26.2/0.0	NIRSpec/MOS	GO
8709	Confronting Lyman-alpha Radiation Pressure Feedback in the JWST Era	PI: Aaron Smith Co-PIs: Olof Nebrin				AR

Topic: Reionization and the IGM [Xiangyu Jin]

9180	Ushering in the JWST Era of Precision Constraints on Reionization: A Survey of Faint Quasar IGM Damping Wings at 6.5 < z < 7.4	PI: Joseph Hennawi Co-PIs: Timo Kist and Daming Yang	12	94.1/0.0	NIRSpec/FS	GO

- JWST NIRspec fixed slit spectroscopy of 21 quasars at z>6.5 for IGM damping wing analysis → constraints on the timeline of reionization



Hennawi et al., 2025

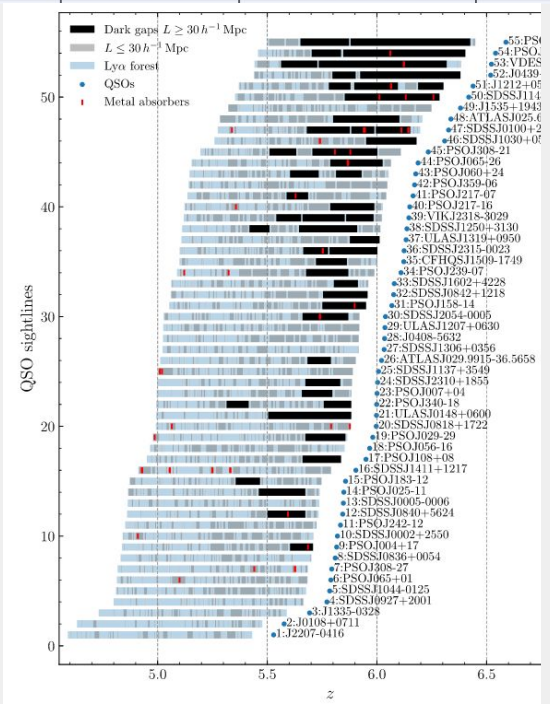
Topic: Reionization and the IGM [Xiangyu Jin]

7436	The Last Neutral Islands at the End of Reionization? Characterizing the Nature of the Longest Dark Gaps in IGM Transmission at z~5.3	PI: Xiangyu Jin	12	18.4/0.0	NIRCam/WFSS	GO

- Galaxy redshift surveys in two quasar fields with long dark gaps at z~5.3 (identified by Yongda) and Keck/DEIMOS Ly-alpha spectroscopy of galaxies

  → test whether long dark gaps are associated with neutral islands at z~5.3 in the IGM

Bosman et al., 2022: **Hydrogen reionization ends at z~5.3**: Lyman-alpha optical depth measured by the XQR-30 sample



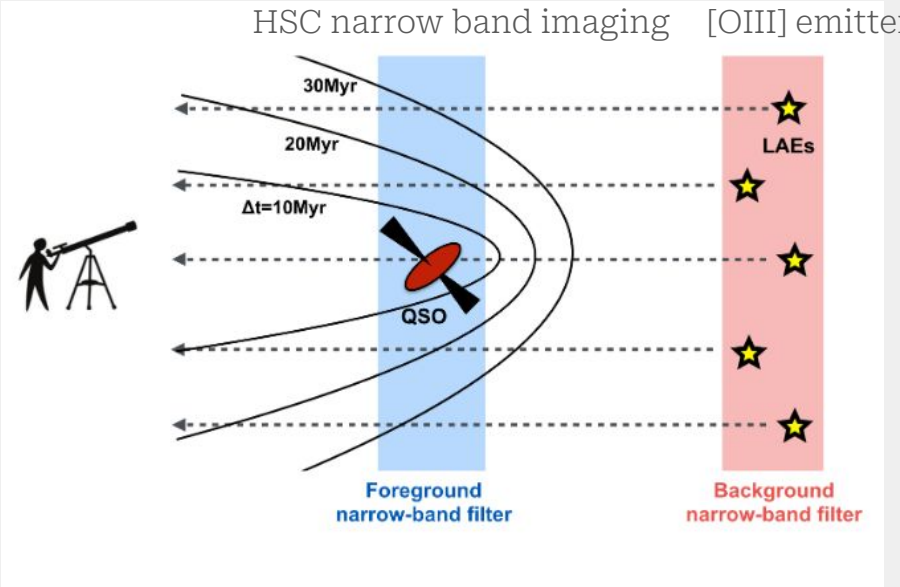
Zhu et al., 2021

Topic: Reionization and the IGM [Xiangyu Jin]

8273	Photometric Quasar Light Echo Tomography at z=5.7 with Subaru/HSC and NIRCam/WFSS	PI: Shane Bechtel	12	17.3/0.0	NIRCam/WFSS	GO

- Photometrically mapping a quasar ionized bubble in the IGM → background galaxy Ly-alpha forest tomography, quasar radiation/growth history

HSC narrow band imaging [OIII] emitters from WFSS



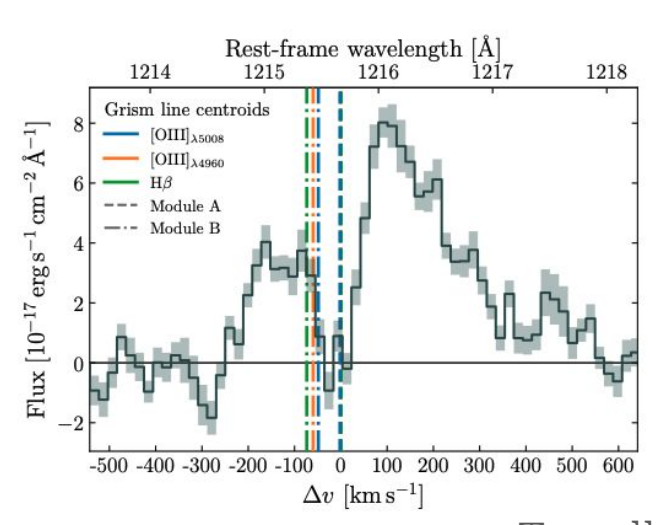
Kakiichi et al., 2022

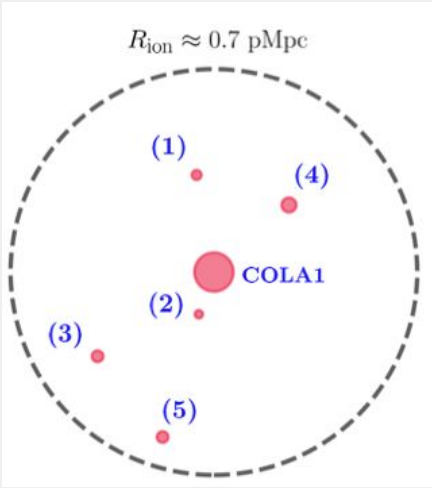
Topic: Reionization and the IGM [Xiangyu Jin]

7722	To catch an AGN: Ionizing Emission and AGN Activity of COLA1 in the Epoch of Reionization	PI: Alberto Torralba Co-PIs: Jorryt Matthee	12	18.5/0.0	NIRSpec/MOS	GO

- NIRSpec/MOS (G140M, G235M) observations of COLA1, a luminous double peaked Ly-alpha emitter but with a very compact morphology → identify whether COLA1 is an AGN; map the ionized bubble around COLA1

[OIII] emitters selected from WFSS



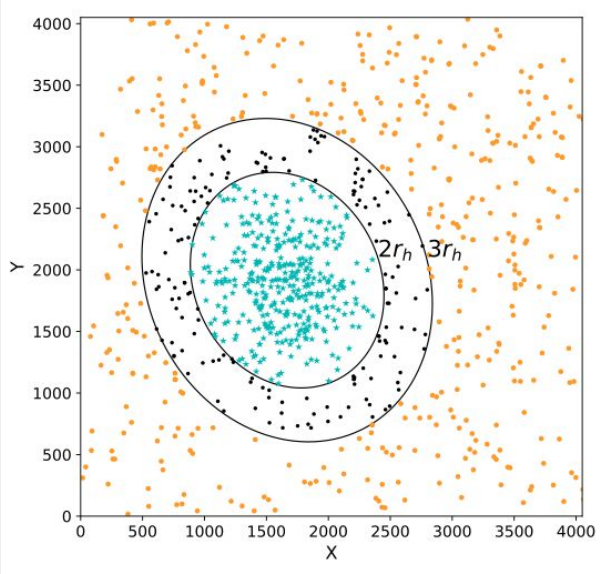


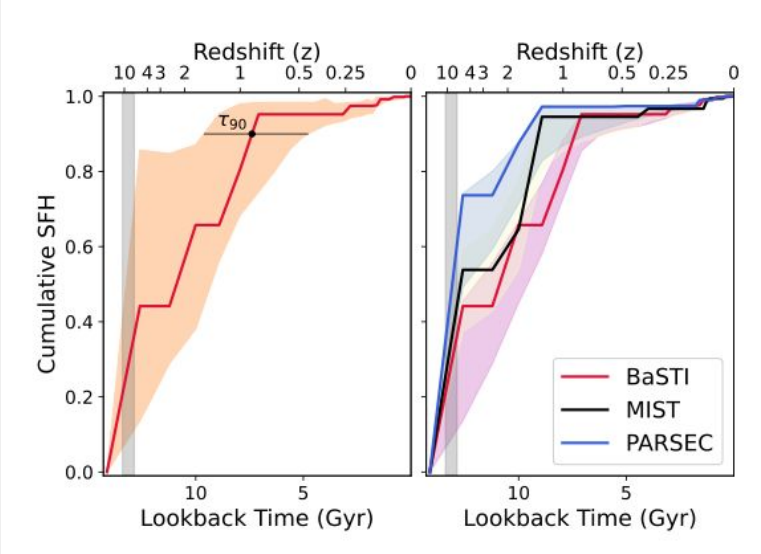
Torralba-Torregrosa et al., 2024

Topic: Reionization and the IGM [Xiangyu Jin]

7119	Does Reionization Quench All Ultra-faint Dwarf Galaxies? The Ancient Star Formation History of Pegasus W	PI: David Sand	0	8.8/0.0	NIRCam/Imaging	GO

- NIRCam to identify old stars→ Test the impact of reionization on the star formation in low mass galaxies





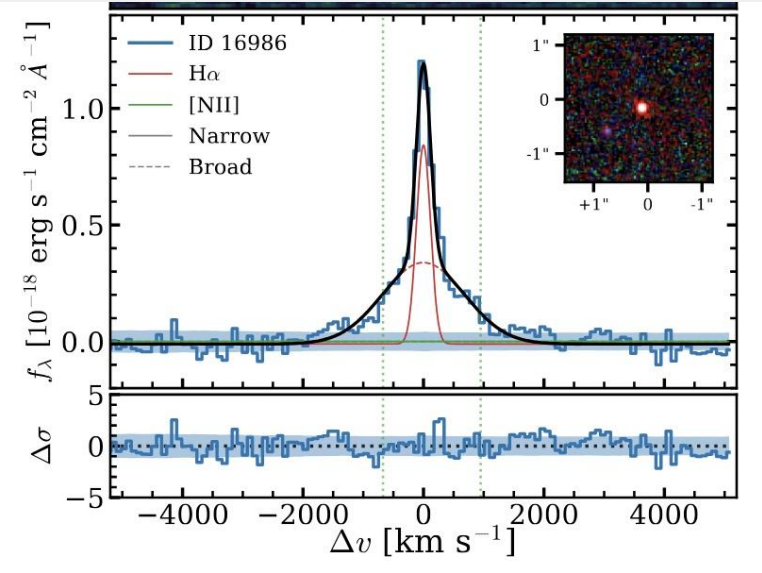
McQuinn et al., 2023

Topic: AGNs and LRDs [Wei Leong Tee]

What are the interests in chasing AGNs/LRDs? Especially at high-z?

Abundance, evolution, environment

What do we know about LRDs?



Mostly converges on
1. Broad balmer lines
2. Red rest optical slope
3. Strong balmer break
4. Occasional balmer absorption

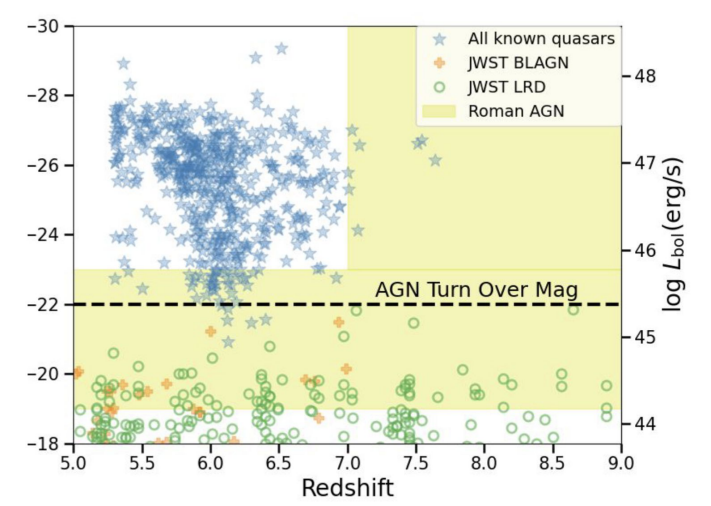
If AGN, are they distinctly different from local AGNs, i.e. X-ray (tentative), radio?, variability? **Is it worth to do it?**

Topic: AGNs and LRDs [Wei Leong Tee]

What are the interests in chasing AGNs/LRDs? Especially at high-z?

Abundance, evolution, environment

Do we already have enough representative sample to constrain statistics?
~ 1deg^2 deep field data, thx to NIRCam + WFSS
~ several hundred phot-LRD, ~ several tens spec-LRD



7076	A comprehensive population study of Little Red Dots: Connecting early BH and galaxy growth	PI: Hollis Akins	12	86.2/0.0	NIRSpec/ MOS	GO
7491	Probing hidden active SMBHs in the epoch of reionization: the missing link between classical quasars and faint JWST AGNs	PI: Yoshiki Matsuoka Co-PIs: Masafusa Onoue	12	48.2/0.0	NIRSpec/FS	GO

Topic: AGNs and LRDs [Wei Leong Tee]

This cycle is about studying the spectra of AGN/LRDs -> Both rest-UV and rest-IR

7195	Deciphering the torus and extended dust properties of local active galactic nuclei	PI: Almudena Alonso-Herrero Co-PIs: Ismael Garcia Bernete and Sebastian Hoenig	12	32.7/0.0	MIRI/MRS NIRSpec/IFU	GO
7140	A JWST Survey of Compton Thick AGN	PI: Lee Armus Co-PIs: Claudio Ricci and Nuria Torres-Alba	12	61.0/0.0	MIRI/Imaging MIRI/MRS	GO
6827	From Dawn till Noon: Chronicling the Cosmic History of Black Hole Growth	PI: Anna-Christina Eilers	12	110.9/0.0	MIRI/Imaging NIRCam/WFSS	GO
8358	Revealing the True Nature of Little Red Dots with Deep Continuum Observations of an IR-Bright LRD at z=3.1	PI: Guillermo Barro Co-PIs: Pablo Perez-Gonzalez	12	19.9/0.0	MIRI/MRS NIRSpec/IFU	GO
7492	MILAN - MIRI LRS Program of AGN at Cosmic Noon	PI: Dominika Wylezalek Co-PIs: David Rupke	12	42.2/0.0	MIRI/LRS	GO
7503	CACTUS: Comprehensive Analysis of Compton-Thick AGN in the early UniverSe	PI: Eleonora Parlanti	12	49.9/0.0	NIRSpec/IFU	GO
8457	Exploring the Extremes: A JWST Study of Hyper-Eddington AGN	PI: Claudio Ricci Co-PIs: Shobita Satyapal	12	26.5/0.0	MIRI/MRS NIRSpec/IFU	GO
8520	Balmer Breaks in Little Red Dots: Stellar Populations or Dense Neutral Gas?	PI: Anthony Taylor	12	10.8/0.0	NIRSpec/MOS	GO

Topic: AGNs and LRDs [Wei Leong Tee]

1+3 Epochs LRDs Variability Monitoring Program

7404	How I wonder what you are -- do JWST's Little Red Dots twinkle? Testing broad-line and continuum variability on week, month, and six-month timescales	PI: Rohan Naidu Co-PIs: John Chisholm and Jorryt Matthee	0	49.2/0.0	NIRCam/WFSS	GO

Balmer Break & Balmer Absorption

8204	Give me a break: the search for stars in a prototypical Little Red Dot	PI: Jenny Greene Co-PIs: Ivo Labbe	12	17.0/0.0	NIRSpec/MOS	GO
8520	Balmer Breaks in Little Red Dots: Stellar Populations or Dense Neutral Gas?	PI: Anthony Taylor	12	10.8/0.0	NIRSpec/MOS	GO

Increasing interests to low-mass/low-luminosity AGN

8139	Local Analogs of JWST's high-z AGN: Uncovering a deeply embedded IMBH in a compact metal poor dwarf	PI: Shobita Satyapal	12	5.8/0.0	MIRI/MRS	GO

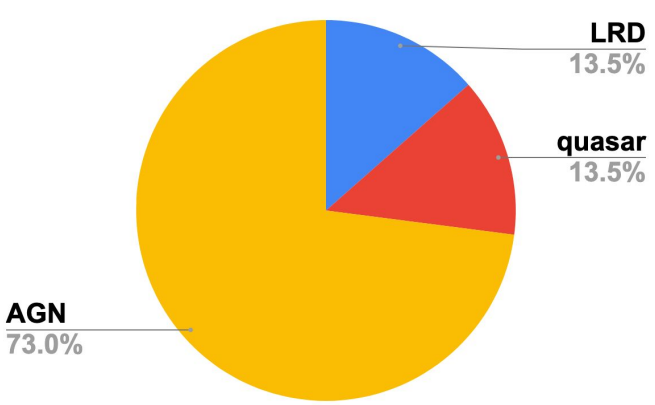
Interesting Events

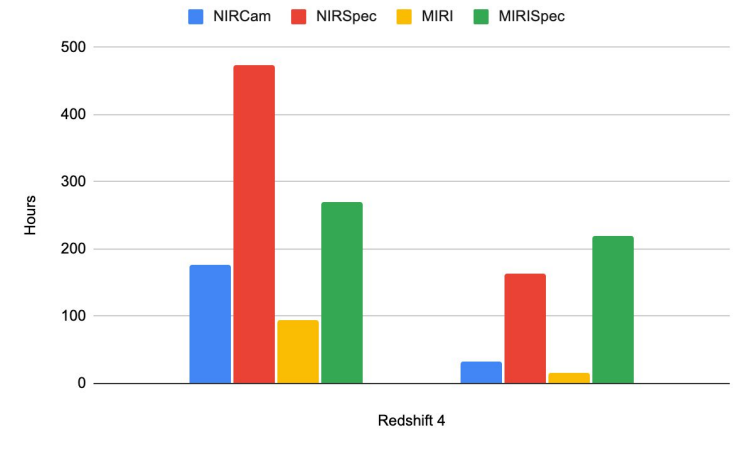
8245	Mid-infrared overview of the turning on AGN candidate and X-ray QPE emitter SDSS1335+0728	PI: Paula Sanchez Saez Co-PIs: Megan Masterson	12	3.6/0.0	MIRI/MRS	GO
9177	Unmasking a Potential Recoiling Black Hole or Hyperluminous Blue Variable	PI: Michael Koss	12	2.7/0.0	NIRSpec/IFU	GO

Topic: AGNs and LRDs [Wei Leong Tee]

Some comments:

1. Less favour of quasars, SMBH sells better
2. Do we still need surveys/parallels to find more AGNs/LRDs?
   Another way: Deep+high resol or Wide+low resol?
3. Low-z panel easier to study host galaxies properties
4. Finding AGN in high-z gal vs Decomposing host in quasar
5. Is overdensity still a selling point in the AGN/LRD perspective?
6. Medium bands are efficient
7. Majority are < medium proposal, 21/12/4





What are the most critical datasets in the coming year?

Random thoughts about randomness (Xiaohui)

- There is a lot of randomness in the proposal selection, even among the ones that are approved. Was surprised somewhat by the choices.
- And there are a lot of really good 1st quintile proposals that didn't get time.
- **For 20+ resubmissions that XF was on, the difference in quintile between Cycle 3 and 4 is (-0.4 +/- 1.7): this is basically gambling!**
- Try, and try again - 5 (or 6) out of 7 approved proposals that XF are on are resubmissions (with the largest one at 3rd quintile in cycle 3).
- TAC likes trendy things. This is Cycle 4 - you think that we should be over the shiny headlines?
- Check and adjust your programs even after they are accepted (two success stories)
- Discussions!