TAC Report
S22B~S23A

Akio Inoue (Waseda University)
On behalf of TAC12

Special thanks to Sakurako Okamoto, Chie Yoshida, and Hatsune Uekiyo for data collection and plotting.

TAC12

August 2021 (S22A) to July 2023 (S23B)

Akio Inoue (Chair; Waseda University)
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Noriyuki Matsunaga (University of Tokyo)
Toru Misawa (Shinshu University)
Sakurako Okamoto (NAOJ)
Yoshiaki Ono (University of Tokyo)
Takanori Sasaki (Kyoto University)
Takahiro Sumi (Osaka University)
Michihiro Takami (ASIAA)
Makoto Uemura (Hiroshima University)
Hidenobu Yajima (University of Tsukuba)

A summary of S23A (S22B)

- Number of submitted proposals: **95** (129)
  - Including 1 Intensive proposal
- Number of approved proposals: **44** (35)
  - Including 1 approved Intensive proposal
- Oversubscription rate: **2.2** (3.7)

Minimum in the 22 years Subaru history

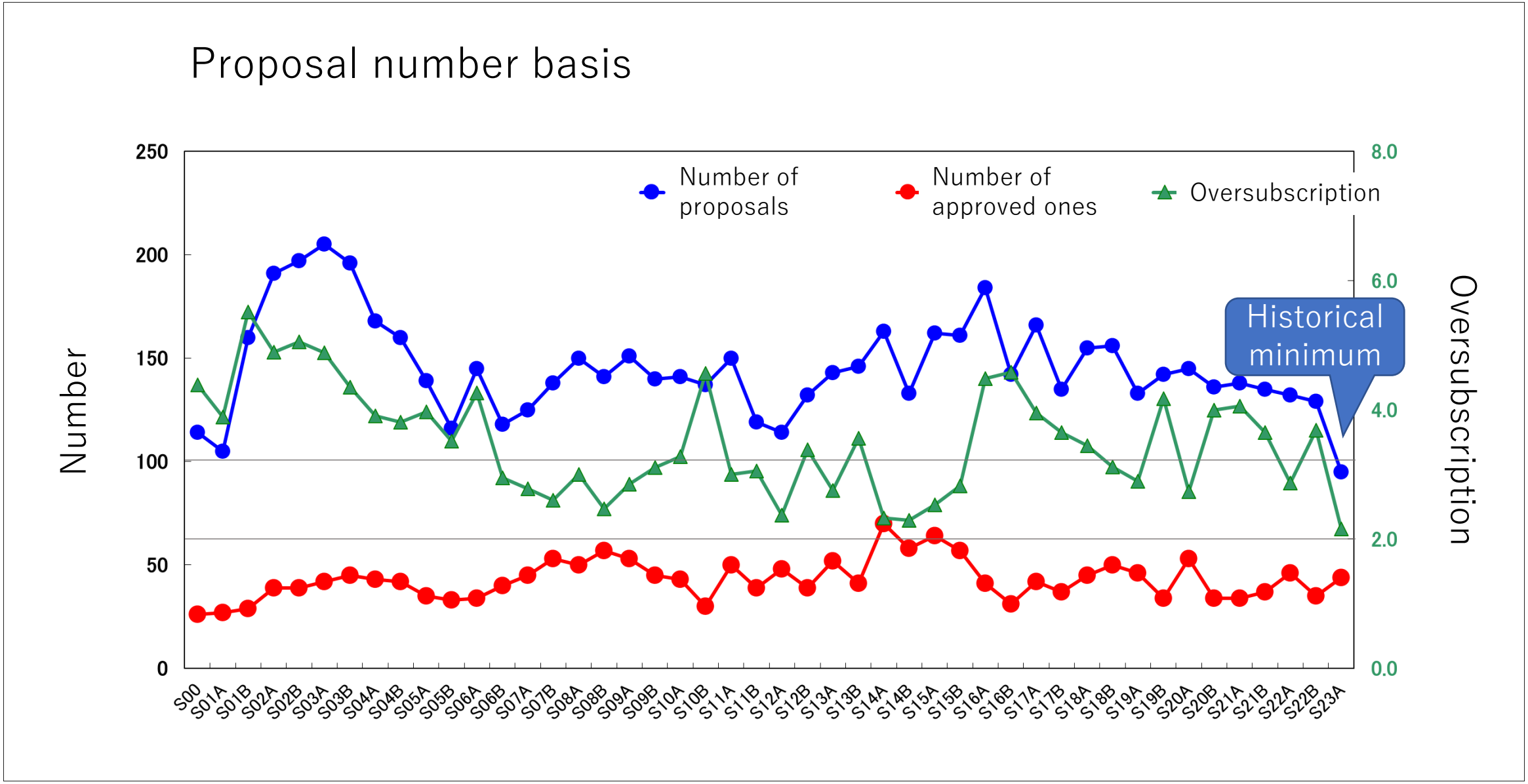
Minimum in the 22 years Subaru history

- Nights requested: **216.15** (246.02)
  - Newly proposed Normal and Intensive nights
- Nights approved: **102.15** (63.4)
  - Including continuous Intensive nights: **14.5** (17.4)
  - Newly approved Normal and Intensive nights: **87.65** (46.0)
- Oversubscription rate: **2.1** (4.2)

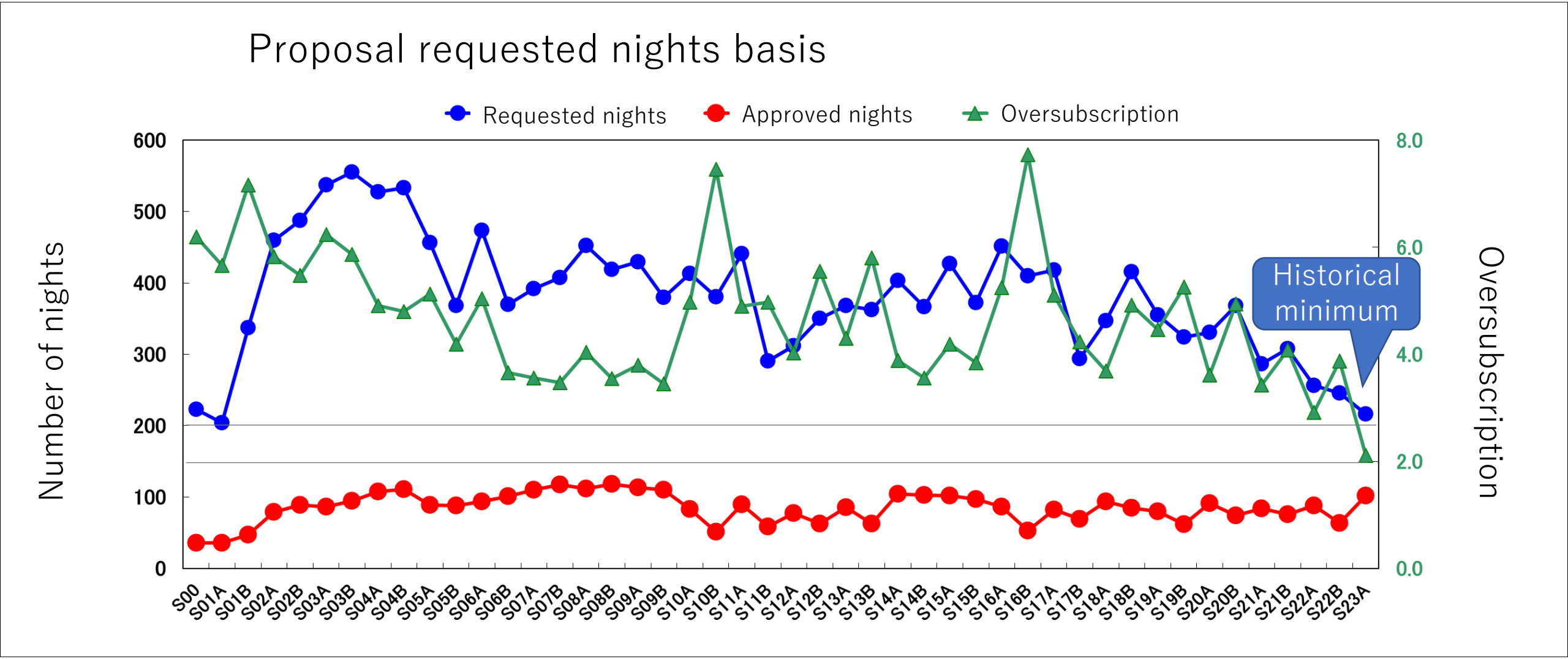
Minimum in the 22 years Subaru history

- Time-exchange
  - Subaru -> Gemini **3.0**n (2.1n); Gemini -> Subaru **7.5**n (5.4n)
  - Subaru <-> Keck **5.0**n (4.5n)

Statistics: Proposal numbers and oversubscription rate

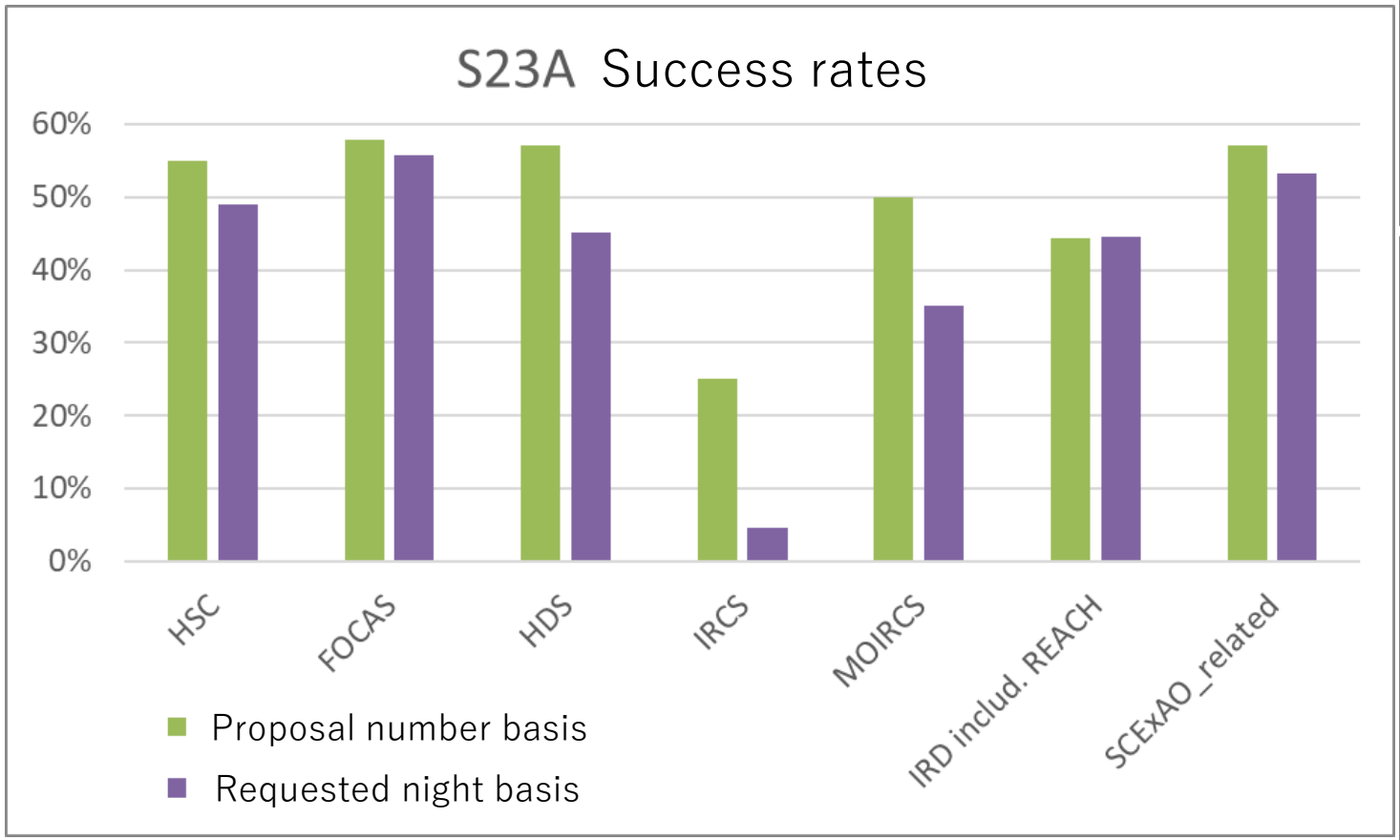


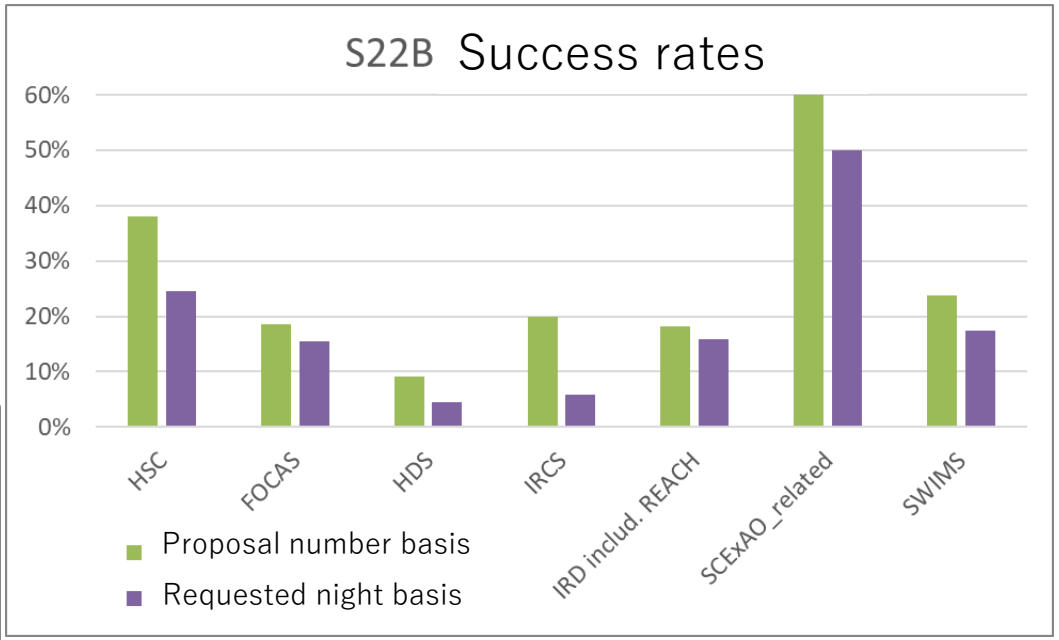
Statistics: Requested nights and oversubscription rate

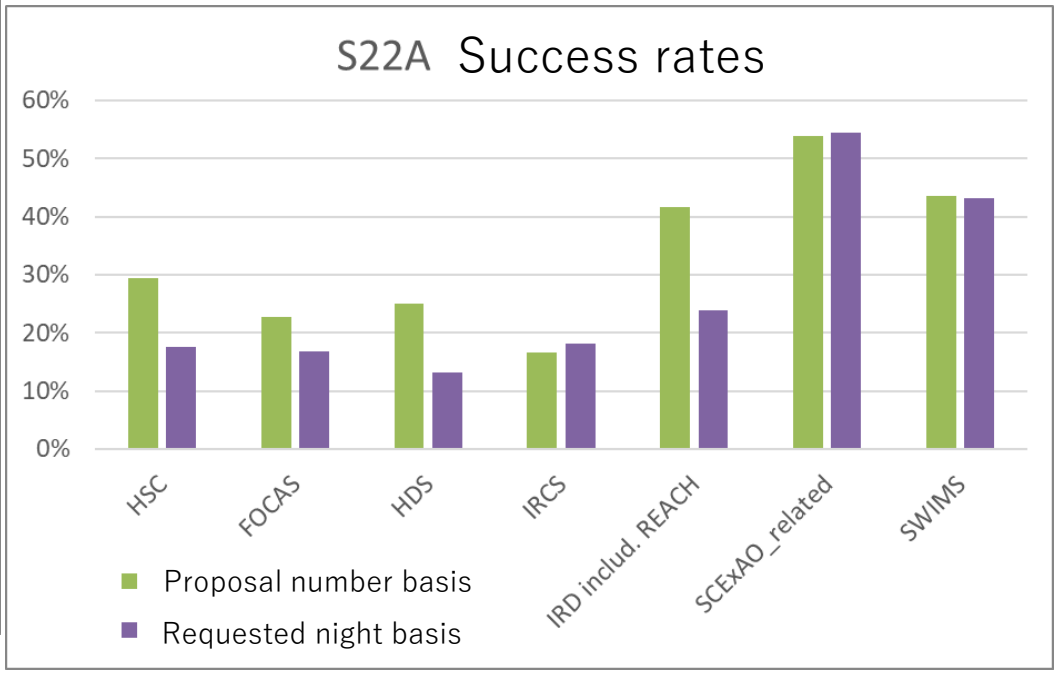


Statistics: Instrument basis

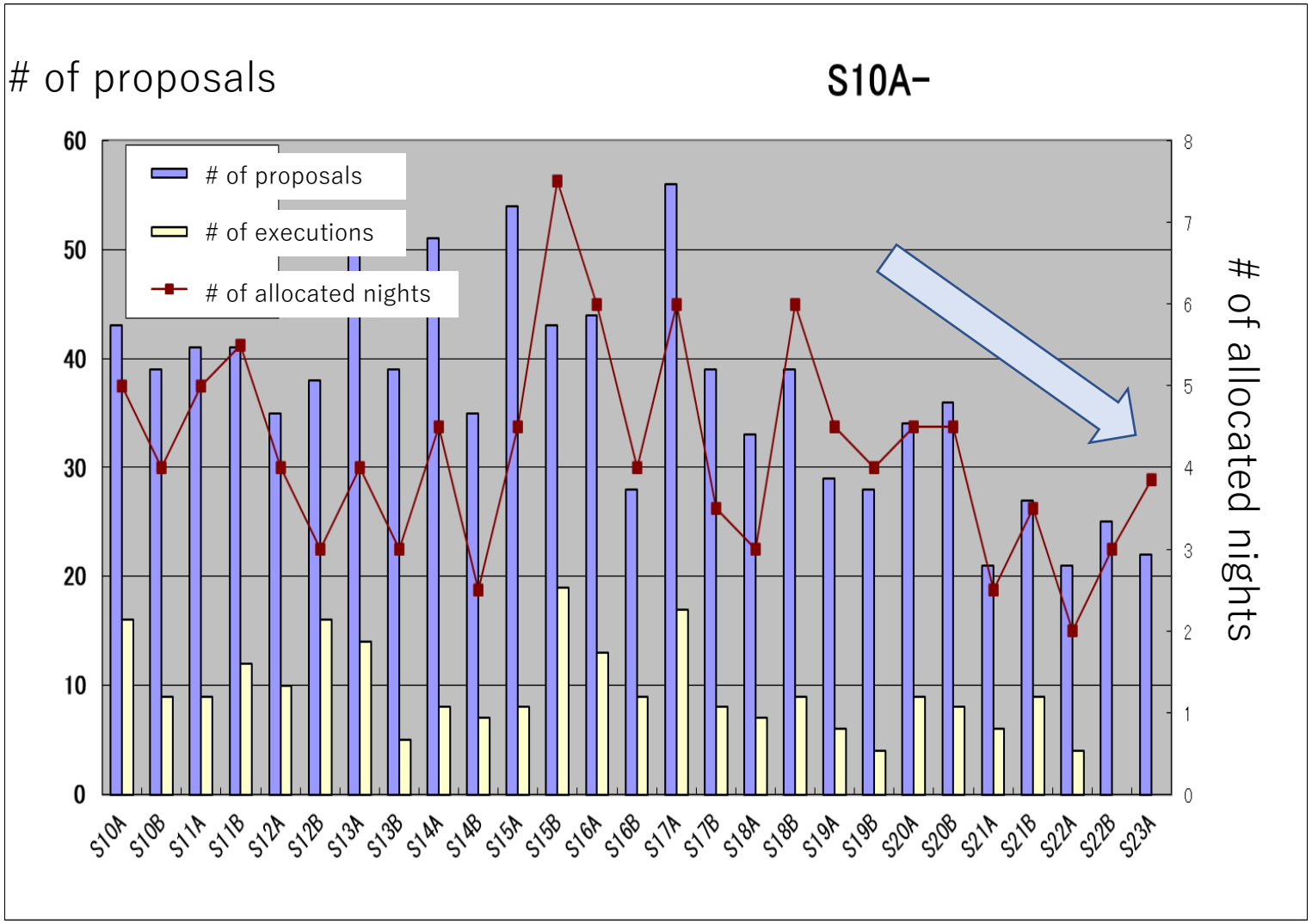
- Success rates based on instruments
  - Except for already selected Intensive programs

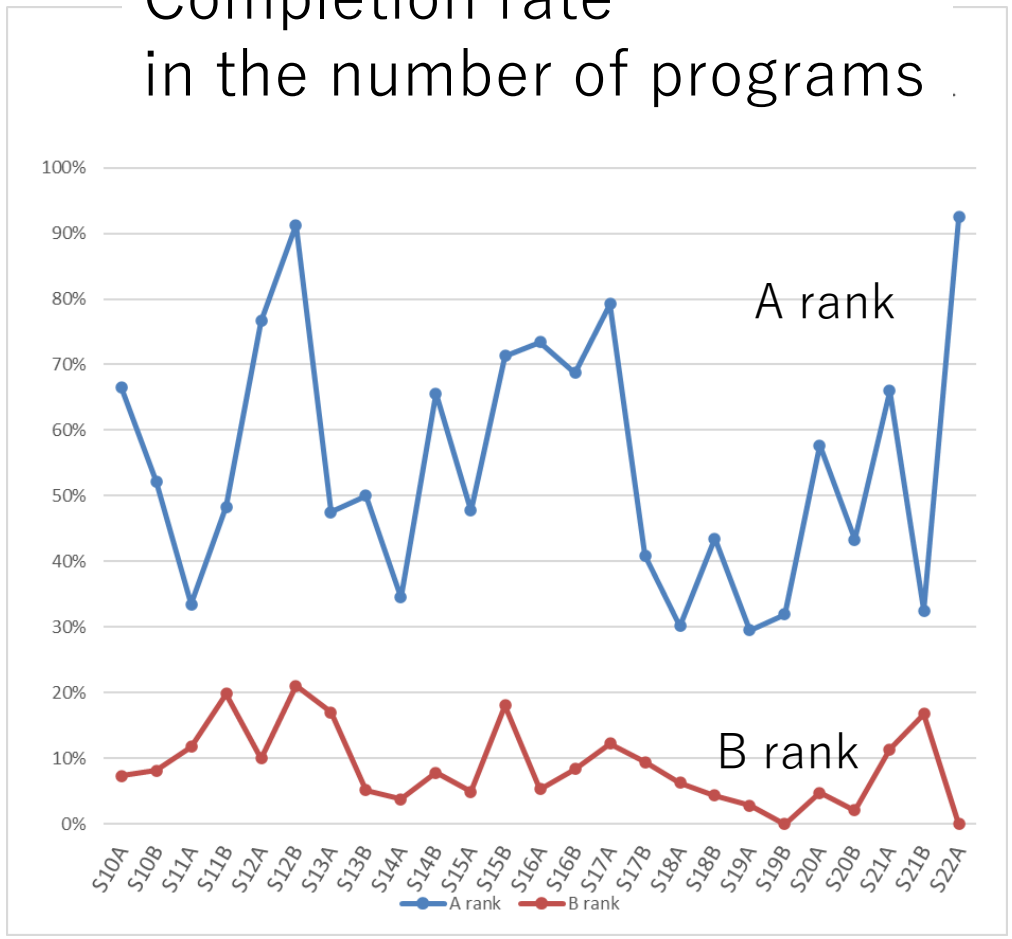




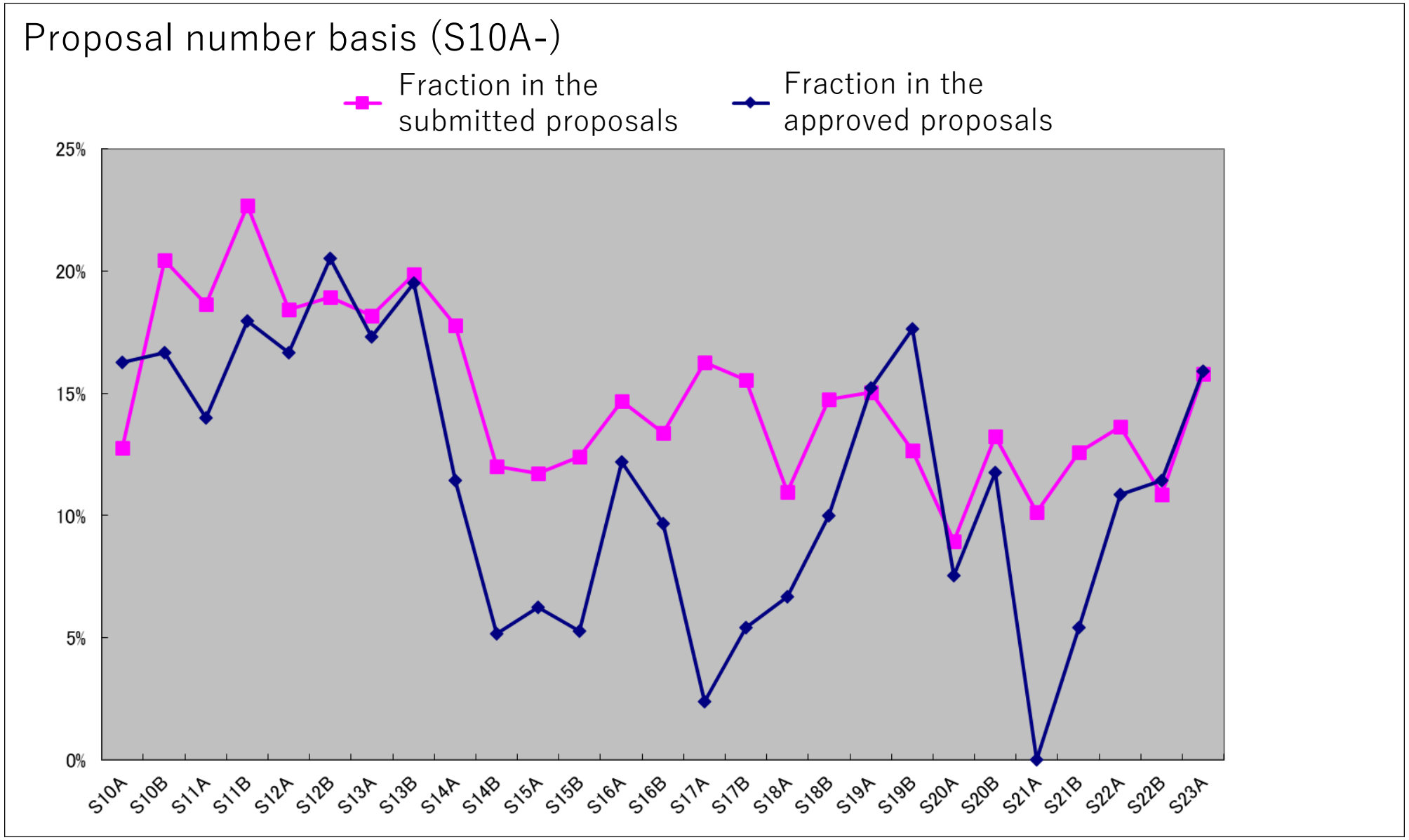


Statistics: Service programs





Statistics: Student proposals



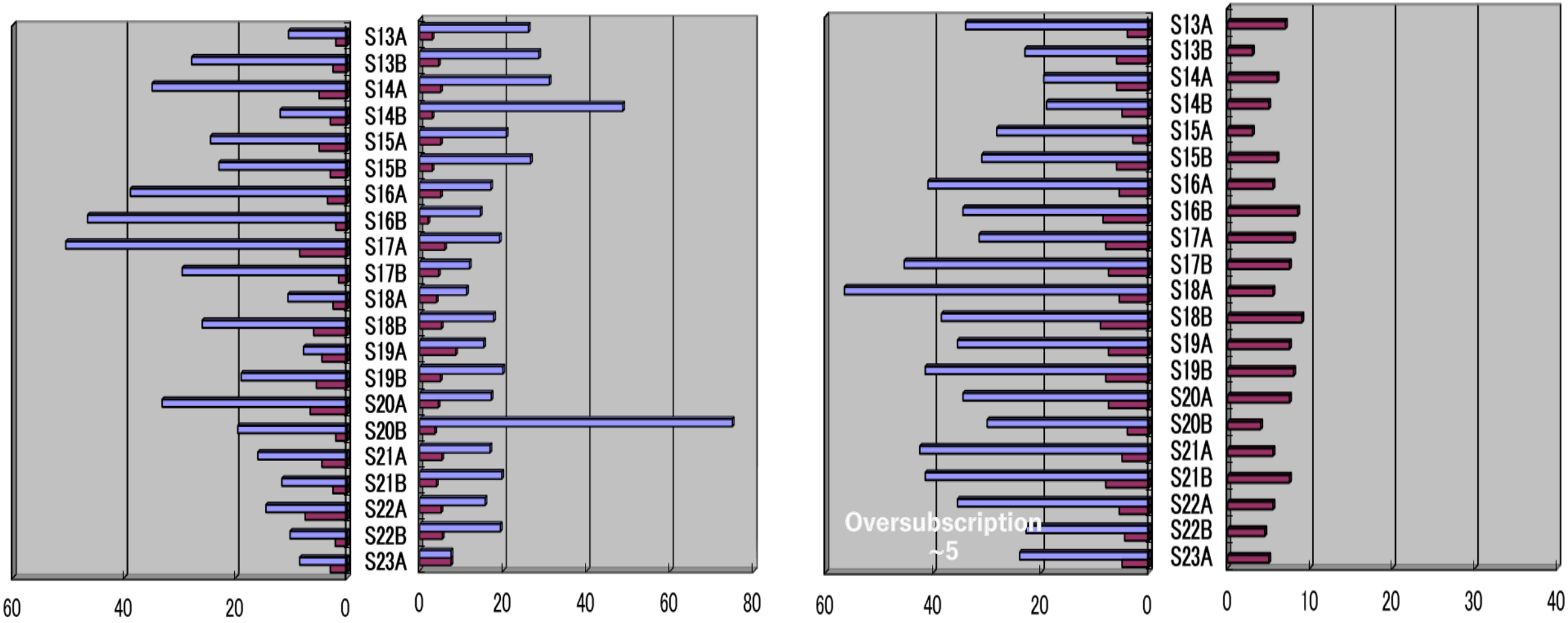
Statistics: Time-exchange

Subaru → Gemini **S23A 3.0n**

Gemini → Subaru **S23A 7.5n**

Subaru → Keck **S23A 5.0n**

Keck → Subaru



Restriction to Gemini exchange programs

- SAC decisions:
  - Fast Turnaround (FT): 1.2 nights at maximum during a semester
    - Up to 4 hours (=0.4 nights) bimonthly (odd-numbered months)
  - Normal: 3 nights at maximum in each semester in S22B/S23A/S23B
  - TAC is also asked to keep nights remained in the Open Use allocation for programs from Gemini as much as possible, not to allocate back-up programs.

- S22B
  - Subaru → Gemini 2.1n (including 1.0n of S21B-118I)
  - Gemini → Subaru 5.4n
- S23A
  - Subaru → Gemini 3.0n
  - Gemini → Subaru 7.5n

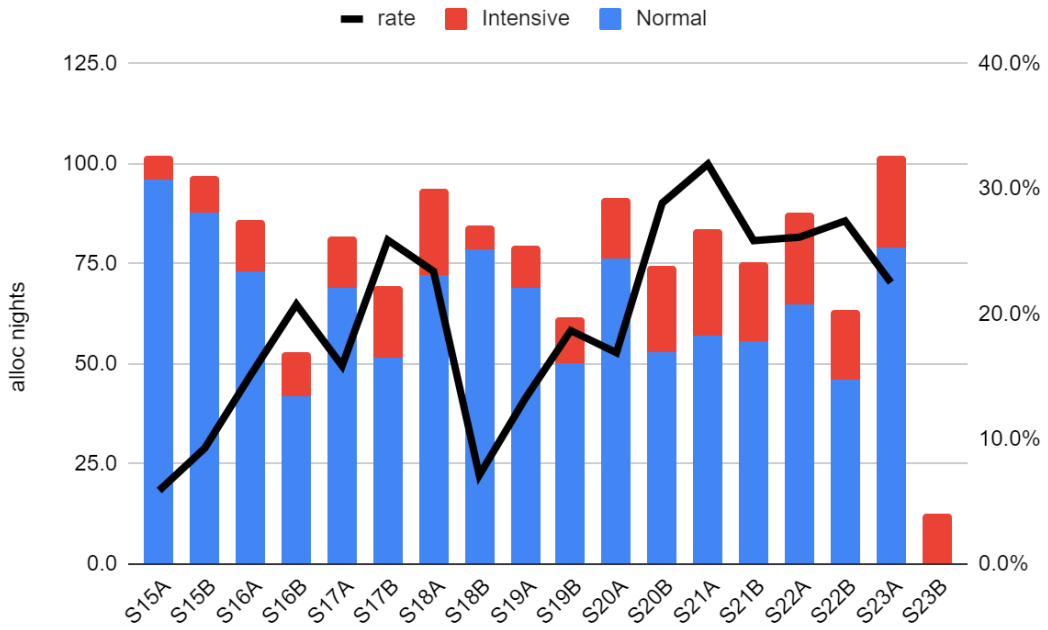
Balance between Normal and Intensive

- On going Intensive programs
  - S20B-097 (Oguri) : S20B-S23A (6 semesters), HSC 200.9 hours
  - S21A-114 (Matsuda) : S21A-S23A (5 semesters), HSC 9.8 nights
  - **S23A-067 (Narita) : S23A-S23B (2 semesters), IRD 25 nights**

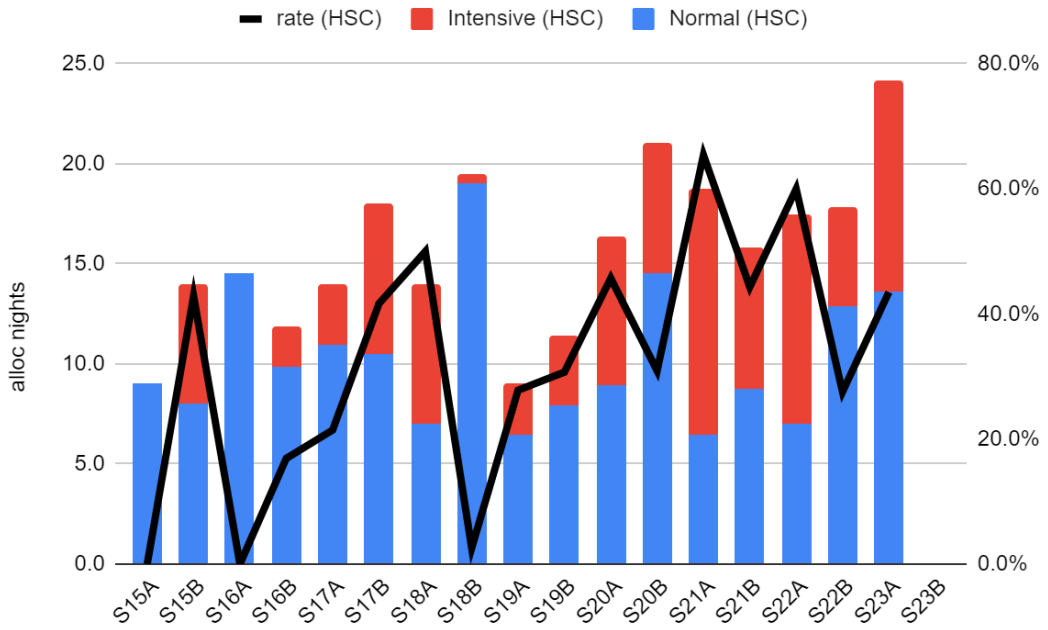
New in S23A

- Intensive time fractions
  - ~25% in Open Use time
  - ~40% in HSC time

All instruments



HSC



Evaluation of Intensive programs

- From S23A, TAC implemented a method to evaluate "**Impact to astronomical community**", written in Call-for-Proposal, in addition to usual scientific evaluations by TAC and scientific reviewers.
- Since time for Intensive programs is collected from all science categories, it should benefit as many categories as possible.
- The evaluation is 4 grades:
  - **S**: An outstanding impact on most categories
  - **A**: A very large impact on many categories
  - **B**: A large impact on neighboring categories
  - **C**: Not a large impact even on just neighboring categories
  - The grade is determined by consensus at the TAC meeting.

Balance among science categories

- A
  - A1: Solar system
  - A2: Extrasolar Planets

Merged in S23A

- B
  - B1: Star Formation and Young Disk, ISM
  - B2: Normal Stars, Metal-Poor Stars

Merged in S23A

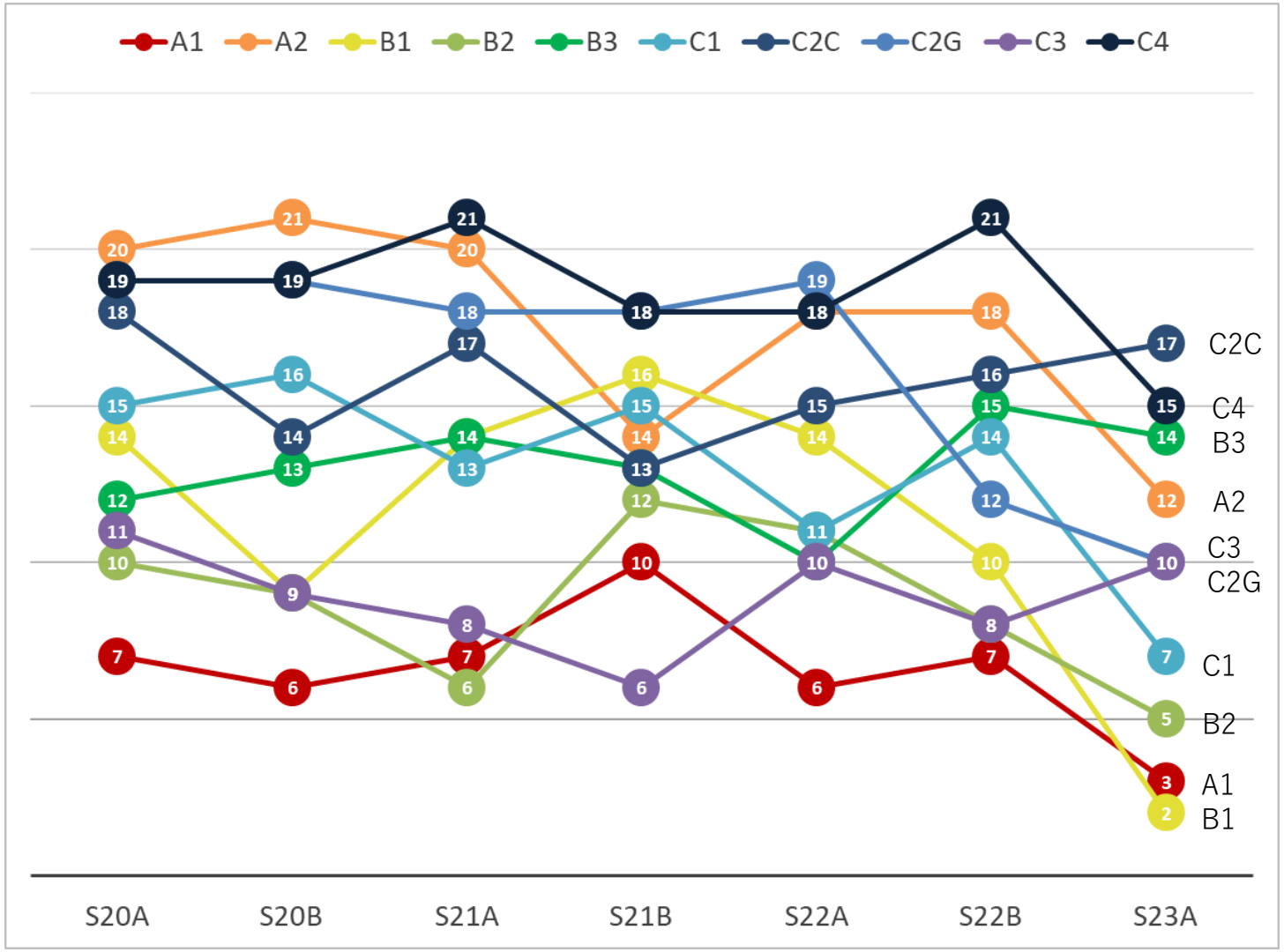
→ Stars and Brown Dwarfs, Stellar Envelope and Activity

  - B3: Compact Objects and SNe
- C
  - C1: IGM and Abs. Line Systems, Cosmology, Gravitational Lenses, Circumgalactic Medium
  - C2C: Clusters and Proto-Clusters, Galaxy Properties and Environment
  - C2G: High-z Galaxies (LAEs, LBGs), High-z Galaxies (others), Nearby Galaxies
  - C3: Milky Way, Local Group, Nearby Galaxies

→ Milky Way, Local Group, Galactic Archaeology

  - C4: AGN and QSO Activity

# of Normal proposals



Possible origin of the historic minimum

S22B 129 → S23A 95 (-26%)

- S23A Deadline: September 6, 2022
  - JWST data came out on July 14
  - Possibly, people were too busy for JWST data analysis?

- Seniority dependence
  - Student PI: **17** proposals in S22B → **16** proposals in S23A
  - PI <10 years after Ph.D: **71 → 49** (-31%)
  - PI >10 years after Ph.D: **36 → 28** (-22%)

- Category dependence
  - B3 (-7%), C2C (+6%), C3 (+25%)
  - A1 (-57%), A2 (-33%), **B1 (-80%)**, B2 (-38%), C1 (-50%), C2G (-20%), C4 (-29%)

Discussion items

- Historic minimum of the number of submission
  - Any deviation between the Subaru capability and users' demand?
  - Better instrument lineup? Grand design of instrument lineup?
  - Need to upgrade some instruments?