

すばる科学諮問委員会報告

議事録: https://subarutelescope.org/Science/SACM/j_index.html

Gopira MLへ送付しているSAC Newsletterも参照下さい

大栗 真宗
(千葉大学)

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David Sanders (ハワイ大学)

安田直樹 (Kavli IPMU)

活動報告および主な議論事項 (I)

- キュー観測への天候ファクター考慮、HSCランの明夜への延長について観測所の担当者を招いて議論し、すばるUMでも議論した (資料1)。すばるUMで提示した案を採用することを決定し、準備を進めている。
- 天候ファクターについて、クラシカル観測についてもこれまで明記されていなかったもので、ノーマル観測は考慮しない、インテンシブ観測については考慮することを認める方向で案を検討していく。
- PFSの共同利用及びSSPのポリシーについて、関係者を招いて議論し、すばるUMでも議論した (資料2)。S24Bからの共同利用及びSSPの開始に向けて準備を進めている。

活動報告および主な議論事項 (II)

- TAO SACとすばるSACの協力の可能性について検討した。実務者レベルの検討をもとに可能な範囲で協力を進めていくことを決定した。
- すばるUMを1/31-2/2に国立天文台で開催した。
- LSSTのすばる夜数提供について、PI数のプレミアムファクターと引き換えにHSC, PFSを保証する案を承認した。PI公募の方法を議論しすばるUMで案を提示した (資料3)。
- S23Aで応募数が過去最低であった件について議論した。関連してSCExAOの共同利用化の可能性について議論し、特にCHARISについて具体的な検討をすすめている。

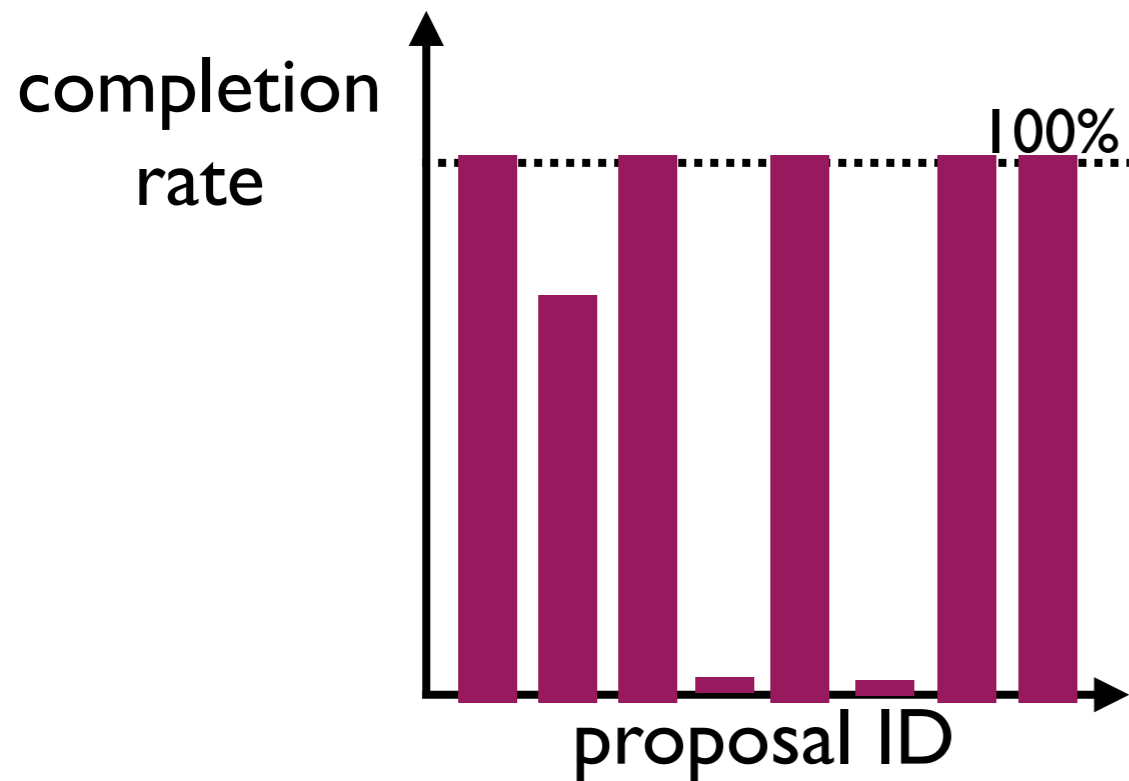
Queue observations (HSC, PFS)

- background: some issues
- low completion rate of HSC queue
(Pyo-san's report in this UM)
- request of UH to use more HSC time

Proposals

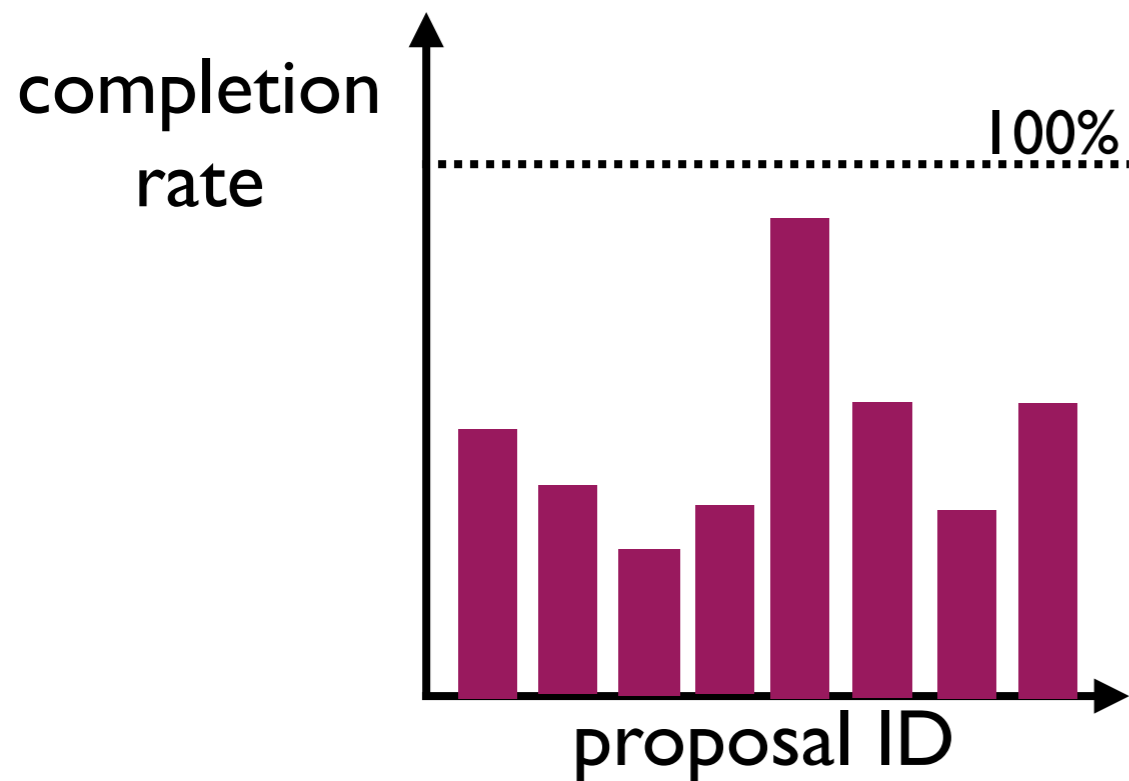
1. taking account of weather factor (~ 0.7) when submitting/accepting HSC proposals
(only for queue observations)
 - currently 1 hour incl. overhead = 0.1 nights
 - change it to e.g., $0.1/0.7 = 0.14\dots$ nights
 - it will **decrease** the total number of proposals accepted, but will **increase** the completion rate of each proposal
 - no need to have the same policy between queue and classical
2. do the same for PFS open use

current classical

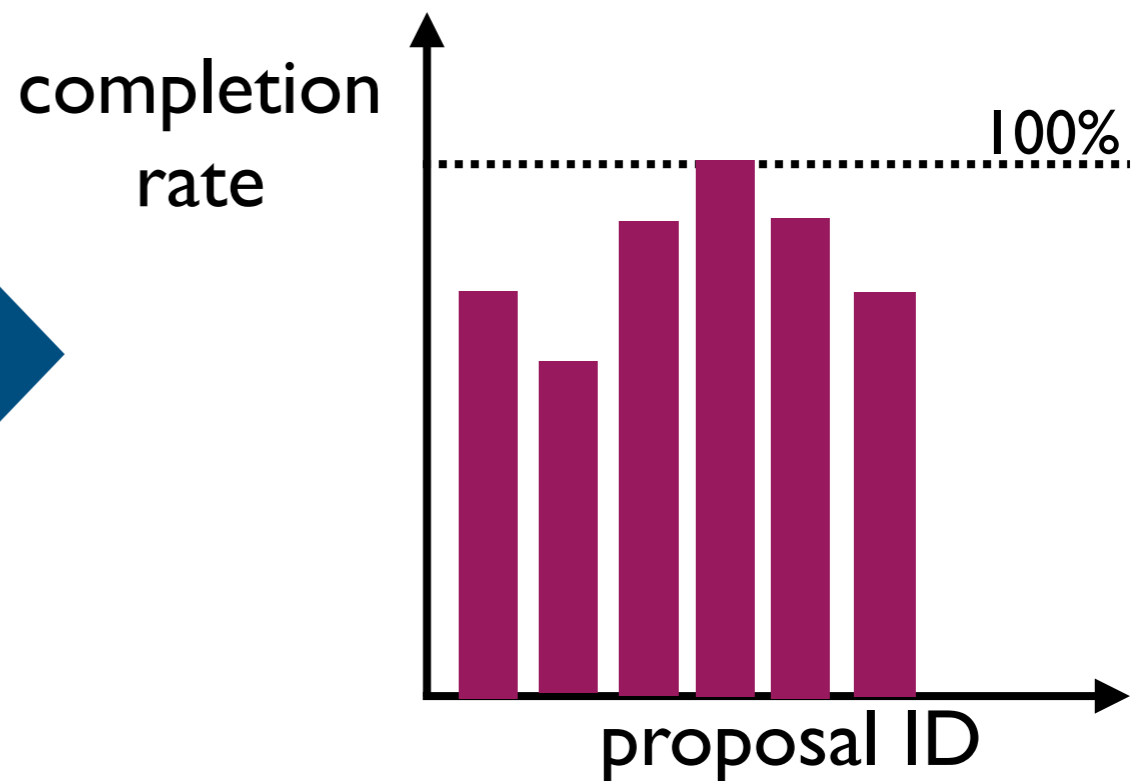


schematic illustration

current queue



proposed queue



Proposals

3. allow the observatory to allocate HSC time in bright nights

currently the duration of each HSC run is pre-fixed by the observatory

- the observatory provides the possible range of the duration of each HSC run (extending to bright nights) and TAC decide the duration depending on the score/demand
- HSC in bright nights *only if* there are many high-score HSC proposals that have to be otherwise rejected

[bright nights HSC obs limited to z-, and y-band, and possibly i-band as well depending on the requirement]

Discussion on PFS-SSP

- PFS-SSP will start from S24B
 - CfP around 2023 Oct, deadline around Dec
- active discussions on PFS-SSP in SAC
 - science verifications in commissioning
 - time allocation
 - target duplication between SSP and open use
 - fiber share between SSP and open use

Science verifications in commissioning

- SAC and observatory approved science verification observations in commissioning (2022.3.23)
 - it can be e.g., observations of line-emitting galaxies for a verification of survey-mode observations
 - a few nights within allocated engineering nights
 - data taken are allowed to share with PFS Science Team for checking
 - no science papers (without the observatory's explicit approval)
 - raw data must be made publicly available after 1.5 yrs
 - information obtained from these commissioning data must be released to the community immediately

Time allocation

- SAC approved requesting 360 nights and accelerated time allocation (36n/semester) as long as sufficient dark nights are secured for open use (2020.8.18)
- thinking of CfP in accordance with this
 - explicitly say maximum 360 nights in CfP
 - in each semester nights can be allocated up to about 36 nights to the extent that it won't significantly affect open use (to the extent that ~15 dark nights can be secured for open use)
- any comments?

Target duplication

- important to avoid SSP science being scooped
- on other other hand restriction on open use shouldn't be too much for maximizing science outputs from open use
- cross-matching target lists? reduce flexibility in SSP, workforce for cross-matching, same galaxies for different science, ...
- **proposal: open use proposals with the same field and same science goal as SSP are prohibited**
 - open use proposals should explain how they are different from SSP, and TAC judges them

Fiber share

- no strong demand from PFS collaboration (issues in selection functions, optimization, ...)
- **any demand from open use users?** (e.g., concerns about observing HSC-Deep in open use?)
- technical issues need to be sorted out
 - PFS collaboration will use their own optimization/prioritization
 - how to combine it with optimization/prioritization for open use?

LSST in-kind contribution

- in-kind contribution package from Japan, with its main component being 50 Subaru nights over 13 years
- in-kind contributions allows Japanese PIs to have access to LSST data
- it was discussed and approved in previous UM
- premium weight factor (10 PI → 20 PI) in exchange of the guarantee of HSC/PFS time
- framework similar to Keck/Gemini time exchange

日本からのIn Kind Proposal (協議中)

			PI
1	Telescope Time on Subaru	13年間で合計50晩	20
2	Help with Commissioning	2.5名を2年間のコミッショニングに派遣	5?
5	Serving Rubin Science Platform (Development and Support)	RSPの開発とユーザーサポートに貢献	8?
7	Serving LSST Catalog from Lite IDAC	日本人がデータアクセスするときにも必要。データセンターと協力が必須。	5 (NAOJ) ? 2 (IPMU)
N	Dark Energy Science Tools	IPMU/Nagoya/U-Tokyo	5
N	PFSによるPhoto-Z calibration Data	PFS-SSPから抽出、PFS Open UseのFiller	1 + 2 ?
N	PFSによるTransient Follow-up	Open Use Programを提出予定	4?
9	Contribution Team Management	Contribution Packageの取りまとめもカウントされることになった	1?
			28 + 25?

Early Science

Data Previews: A series of Data Previews (DP) based on commissioning data are planned to support the community as they develop their LSST analysis software and workflows, and to enable high-impact science as soon as possible.

- Data Preview 0 (DP0) is based on simulated LSST-like data and is being released in three phases (most recently, [DP0.2](#)), with DP0.3 expected by Sep 2023.
- Data Preview 1 (DP1) will be based on data from the [LSSTCam](#) obtained during a period of a few days after System First Light and is expected by Oct 2024.
- Data Preview 2 (DP2) will serve a full consistent reprocessing of all science-grade [LSSTCam](#) images obtained before survey operations, and is expected by Aug 2025.
- Data Release 1 (DR1) will be based on the first 6 months of survey operations and is expected by Apr 2026.

Selecting PIs

- those who make direct in-kind contributions will get PI status
- other (~30) PIs will be selected by an open call
- rough draft of how to select PIs
- **your comments/suggestions/feedback welcome**

LSST PI selection

Subaru SAC

Background

- in-kind contribution package includes 50 Subaru nights over 13 years of LSST operation
- in return, Japanese PIs have access to LSST data
- 20 PIs for the Subaru time, ~50 PIs in total including other contributions (data server, software, contribution to commissioning, ...)
- for each PI, 4 junior PIs (students, postdocs) can be associated
- since the in-kind contribution includes Subaru nights, (at least) PIs from the Subaru nights should be selected by an open call within the Subaru community

PI selection process (TBD)

- open call for proposals
- those who have direct access to Subaru can submit a proposal
- each proposal includes
 - CV
 - plan on research conducted using the LSST data
 - plan on the contribution to the Subaru community
 - Including delivery of derived data products and target lists (see <http://ls.st/RDO-013>)
- selection by a selection committee
 - consist of people nominated by Subaru SAC
 - covering wide research area, including people who do not join LSST
 - no interview
 - take account of balance of gender, age, research field, region, etc.
 - let the committee decides the detailed procedure and selection criterion
- re-selections for every 3-5 years

PI's rights and obligations (TBD)

- have access to the LSST data
- can select 2 (?) junior PIs (they can be in different Univ. from PI)
 - the other 2 junior PIs selected by an open call
 - selection of junior PIs from the “pool” done by the PI group
- engage in activities to help the Subaru community make use of LSST data
 - help NAOJ organize meetings on LSST, regularly report activities there
 - organize data analysis schools
 - ...