

Call for Proposals for NAOJ Science Roadmap

2024/9/4, 9

Chair, NAOJ Science Advisory Committee

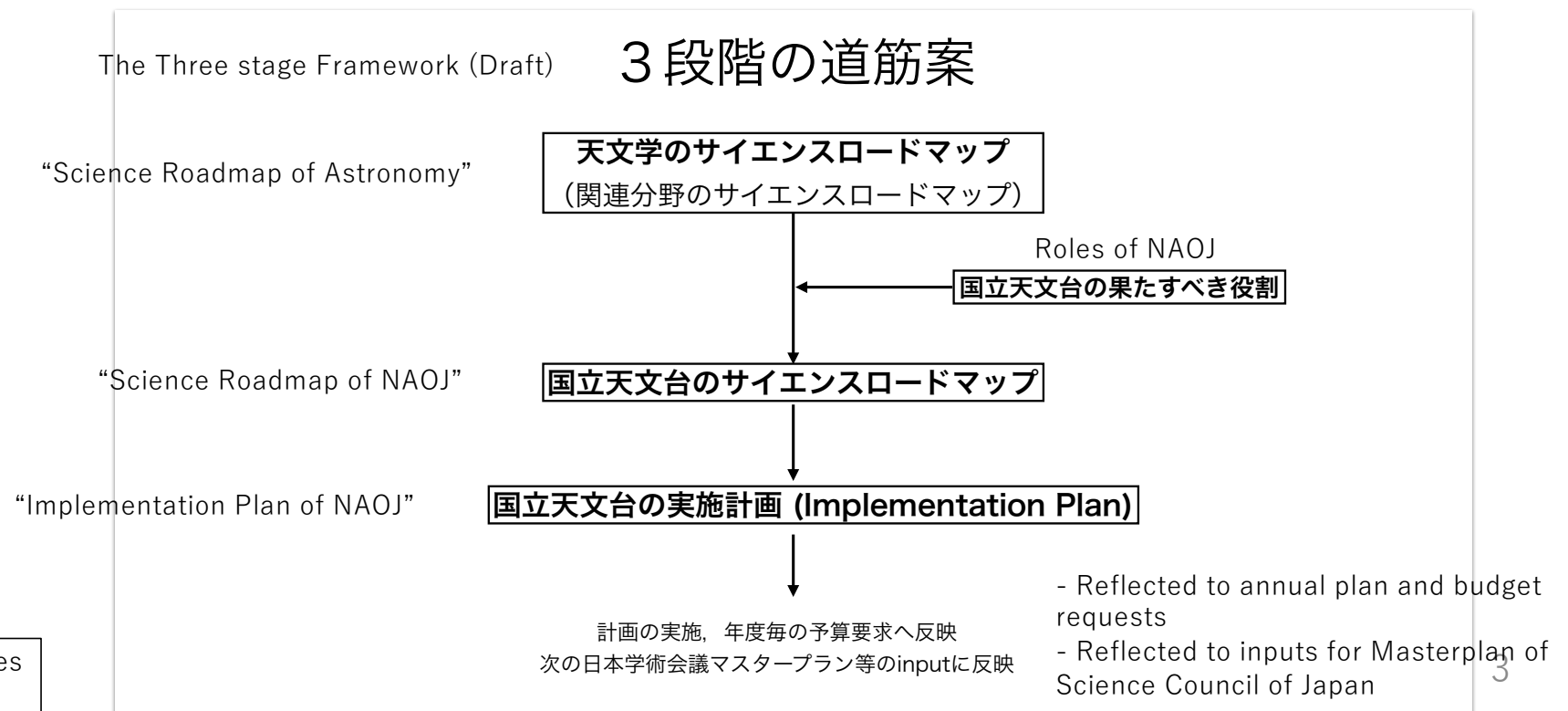
Ver.4 : 2024/9/9
Ver.3 : 2024/9/3

Today's Schedule

1. Previous discussions on the development of the Future Plan of NAOJ
2. Overview of the Science Roadmap (SRM) Development
 - Science Road Map Committee
 - Schedule
 - Future Symposium
3. Proposal/Selection Process of the Science Roadmap
 - Letter of Intent (LOI)
 - Document for NAOJ Science Roadmap Proposal (Draft)
4. Selection Criteria for Science Roadmap Proposals
5. Status of Operation Expenses Grants of NAOJ

1. Previous discussions on the development of the Future Plan of NAOJ

- Future Symposium 2022



candidate plans within about 6 years, **including research running presently** and research in yet in the basic technology development phase

3 段階の概要 Summary of the Three stage Framework

“Science Roadmap of Astronomy”

“Science Roadmap of NAOJ”

“Implementation Plan of NAOJ”

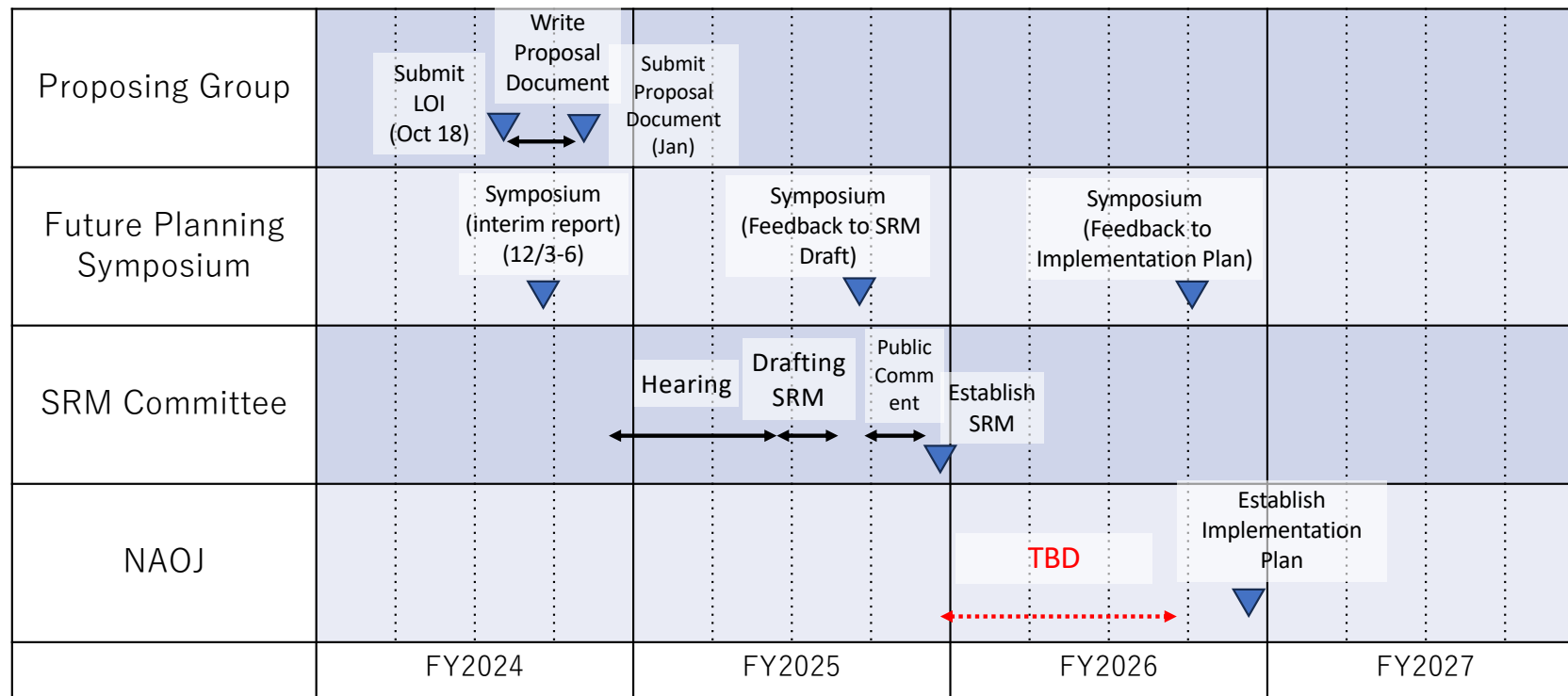
	Definition 定義	誰のもの	国立天文台の役割
天文学のサイエンスロードマップ	天文学の大目標(vision), それを達成するための戦略と個々の研究, さらに個々の研究の目標と計画を記述する。	研究者, 研究者コミュニティ	将来シンポジウムなどを通じて議論を活性化する。個々の国立天文台職員は, コミュニティの一員として活動する。
国立天文台のサイエンスロードマップ	「国立天文台が果たすべき役割」を踏まえた国立天文台が追求するサイエンスのガイドライン。今後6年程度で実施する計画の候補を既存計画や基礎的開発段階にあるものを含めて記述する。	研究者コミュニティと国立天文台	研究者コミュニティと協力して作成する。
国立天文台の実施計画	各研究計画(既存計画や基礎的開発段階にあるものを含む)を今後6年程度にわたって, どのような予算*で実施するかを記述する。予想される予算枠にはまらない場合は, 優先順をつける。	国立天文台	研究者コミュニティの意見をききながら, 主体的に作成する。

*想定される予算: 1. 既存の大規模学術フロンティア促進事業費, 2. 運営費交付金 (既存計画, 新規計画の検討活動・基礎的開発を含む), 3. 新規大規模学術フロンティア促進事業への提案, 4. 国立天文台以外の実施機関 (たとえば大学やJAXA宇宙研) 予算, 5. 外部資金あるいは競争的資金

	Who	How	Contents	Prioritization Perspectives
Science Roadmap of Astronomy	<ul style="list-style-type: none">• Sections 18 and 19 of Science Council of Japan “Long-Range Plan”• Possibility of study by ASJ• Studies by Science groups, committees and associations of specific science areas		Science cases that should be promoted	TBD
	=> ASJ started up a committee to study white-paper for Astronomy in Japan			
Science Roadmap of NAOJ	Science Roadmap Committee (SRM Committee)	Through discussions at Future Symposium and individual hearings, SRM prepare a draft	Science cases that should be promoted at NAOJ	While based on science, the role of NAOJ and the feasibility of NAOJ’s resource constraints will also be considered. The granularity of priority for the proposal will be two levels. The total budget will not be required to fit within the NAOJ budget profile. In order to make the plans feasible and viable (manpower, budget, technological development, etc.), each plan is assigned to one of the budget source from five, and prioritized within it.
Implementati on Plan of NAOJ	DG of NAOJ (consulted by the Governing Board and community representatives)	Not discussed within SAC well. However, the baseline will be “the NAOJ Science roadmap and the proposals to the roadmap (revision is allowed) will be used as inputs. Discussion in the Advisory Committee for Research and Management and feedback from domestic and foreign researchers will be considered before finalizing.”	Implementation plan considering budget source, amount of budget, manpower, facilities	While based on science, the role of NAOJ and the feasibility of NAOJ's resource constraints will also be considered. The granularity of priority for the proposal will be two levels. The total budget will not be required to fit within the NAOJ budget profile. In order to make the plans feasible and viable (manpower, budget, technological development, etc.), each plan is assigned to one of the budget source from five, and prioritized within it. 5

2. Overview of the Science Roadmap Development

- Expected Timeline



2. Overview of the Science Roadmap Development

- Science Roadmap Committee (SRM committee)
 - Based on the Science Advisory Committee member of the Next term
 - Some members of the Advisory Committee for Research and Management will also be appointed
 - Members are currently being selected

Task List of the SRM Committee

- Before Future Planning Symposium(~2024/12)
 - ① Announcement of Call for LOI to Science Roadmap (Sep 17, 2024)
 - ② Analyze the submitted LOIs and, depending on the results, determine the content of the proposals to be requested and the hearing policy.
 - ③ Request proposal documents from groups that have submitted LOIs
 - ④ Read the proposer's presentation in advance to ensure that what is being sought is adequately explained, and request revisions, etc., as necessary.
 - ⑤ Attend the Future Planning Symposium (12/3-6/2024) to hear presentations on each proposal.
 - ⑥ Feedback on the presentations given after the symposium.
- Understanding and evaluating proposals (2024/12~2025/8)
 - ⑦ Conduct interviews based on the proposal to understand the proposal and make the necessary evaluations to formulate SRM.
 - ⑧ Hearings and feedback on each proposal are expected to be held at least twice.
- SRM Establishment
 - ⑨ Prepare a draft SRM by Nov. 2025.
 - ⑩ Make this draft available to the public and hold a future planning symposium in 2025 to gather inputs.
 - ⑪ Develop the final version of SRM through a revision process by Feb. 2026.

3. Proposal/Selection Process of the Science Roadmap

- Please submit an LOI first.
- Following that, please prepare a proposal document.
- During the proposal preparation period, please make an interim presentation at the Future Planning Symposium, where you will present in interim report.
- Please submit a revised proposal incorporating feedbacks from future symposium presentations
- Please attend at least two hearing by the SRM committee
- Based on these processes, SRM Committee will compile a draft science roadmap

#	文字数上限目安	記入文字数	記入欄
1 研究計画名	40	0	
2 代表者名	20	0	
3 代表者所属（国立天文台の場合は台内の所属部署まで）	20	0	
4 国立天文台の代表担当者（*必須ではない）	20	0	
5 国立天文台の代表担当者の台内の所属部署（*必須ではない）	20	0	
6 参加している研究者総数	10	0	
7 上記のうち、参加している国立天文台の研究者名のリスト	500	0	
8 本提案を主導する研究機関	20	0	
9 本提案に関して2010年以降に獲得した競争的資金(直接経費)の総額	20	0	
10 上記の獲得資金のうち額の多いものから上位5件のリスト(年度、種目、総額、題名)	500	0	
11 関連する主な研究者コミュニティ名（推薦などあればその旨も記載）	20	0	
12 計画の実施期間（既存の計画の場合は過去の期間も含む）	20	0	
13 現在の計画のステータス	20	27	たとえば概念検討/技術開発中、建設中、運用中、など）
14 第5期中期計画期間中(2028-2033年度)の予想されるステータス	20	27	たとえば概念検討/技術開発中、建設中、運用中、など）
15 計画の根源となる学術的問い(Science Goal)	100	0	
16 計画の研究目的 (Scientific objectives)	200	0	
17 計画が実施する研究 (Science investigations)	300	0	
18 関連研究分野の状況	500	0	
19 海外の類似計画(あれば)および本計画の優位な点	200	0	
20 計画が実施されることによる他分野へ波及効果	200	0	
21 計画全体の予算規模（総額、もしくは年度毎の額）	10	0	
22 上記の中で期待する国立天文台の資金（総額、もしくは年度毎の額）	10	0	
23 国立天文台で実施する活動とその意義	300	0	
24 国立天文台に期待する役割（特にATC/ADCへの依頼事項、実験スペース、データアーカイブなど）	300	0	
25 期待する資金調達方針（5種類から数字で選択）（国立天文台の実施計画では変更される場合もあります。）	6	0	
1. 既存の大規模学術フロンティア促進事業費、			
2. 運営費交付金（既存計画、新規計画の検討活動・基礎的開発を含む）、			
3. 新規 大規模学術フロンティア促進事業への提案、			
4. 国立天文台以外の実施機関(たとえば大学や JAXA 宇宙研)予算、			
5. 外部資金あるいは競争的資金			
26 実施期間にわたる計画の簡単な線表（画像を添付）			

例：以下にあるような線表

https://www.mext.go.jp/a_menu/kvoten/20230403-mxt_kouhou02-2.pdf

https://www.mext.go.jp/a_menu/kvoten/20230403-mxt_kouhou02-3.pdf

Key points of updated LOI template

In particular, we would like to have the following points presented

- To what extent will NAOJ be involved, and why NAOJ?
- Relationship with similar plans overseas
- Preparation Status

NAOJ Science Roadmap Proposal Document (Draft)

- Documents that provide the basis for inclusion in the SRM
- Contents include 18 items shown in the right
 - When proposing to SRM, only the first 10 items are required in principle
 - Item 11 and onwards may be requested depending on the LOI submitted.
 - Items 11 and onwards are required to be submitted when developing the implementation plan : Please keep it in your mind.
- It may be modified based on your feedback.

1. Summary of the proposal (提案のサマリ)
2. Science goals(計画の科学的な大目的)
3. Scientific objectives (計画の科学的目標)
4. Science Investigations (計画が実施する研究)
5. Instruments and data to be returned (装置と最終獲得データ)
6. Originality and international competitiveness
7. Current Status (現在の計画のステータス)
8. Cost assessments, budget line and status
9. Why NAOJ ? (NAOJで実施する必要性)
10. Collaboration and spillover effects outside astronomy (*フロンティア促進事業のみ)
11. Operations (運用)
12. Rationale and trade-off studies
13. Scientific traceability matrix (科学トレーサビリティマトリックス)
14. Technologies
15. Risk Managements
16. Work Breakdown Structure (WBS)
17. Project Organization (組織)
18. Impact to Resources of NAOJ

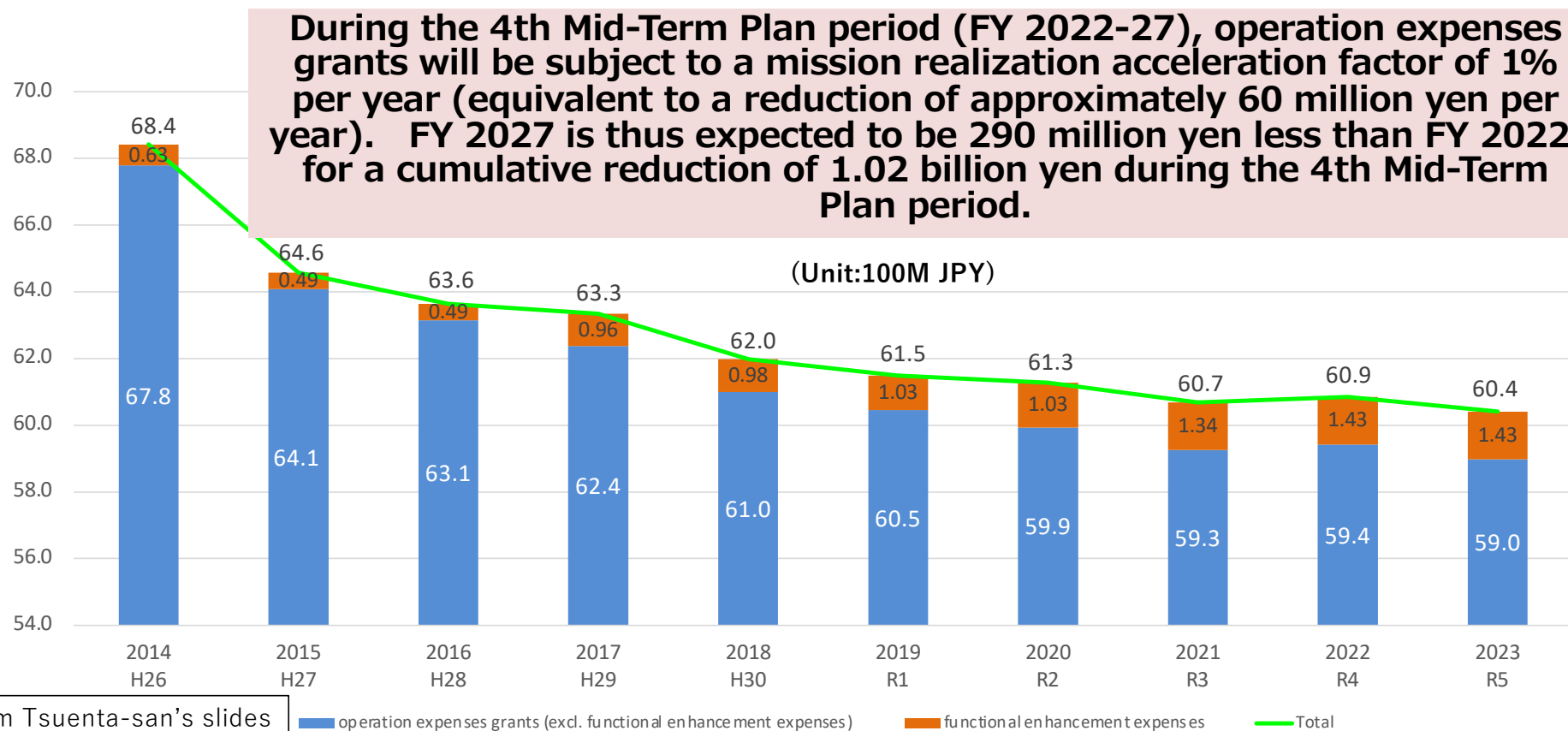
4. Selection Criteria for Science Roadmap Proposals

1. Selection for inclusion in the SRM
 - Make the decision to be listed/not be listed.
 - No prioritization among those listed.
2. Evaluation Points for the Selection
 - If the scientific significance clear?
 - Is it necessary to be conducted at NAOJ? / Are the facilities of NAOJ utilized?
 - Is it competitive internationally?
 - Will it contribute to the development of the next generation researchers?
 - Is it technically ready?
 - Are the necessary budget and human resources figured out?
 - Is it clear what it intends to implement during the 5th Mid-Term Plan period (FY2028-2033)?

Based on the above items, SRM Committee will compare proposals and decide whether or not to list them on SRM.

5. Status of Operation Expenses Grants of NAOJ

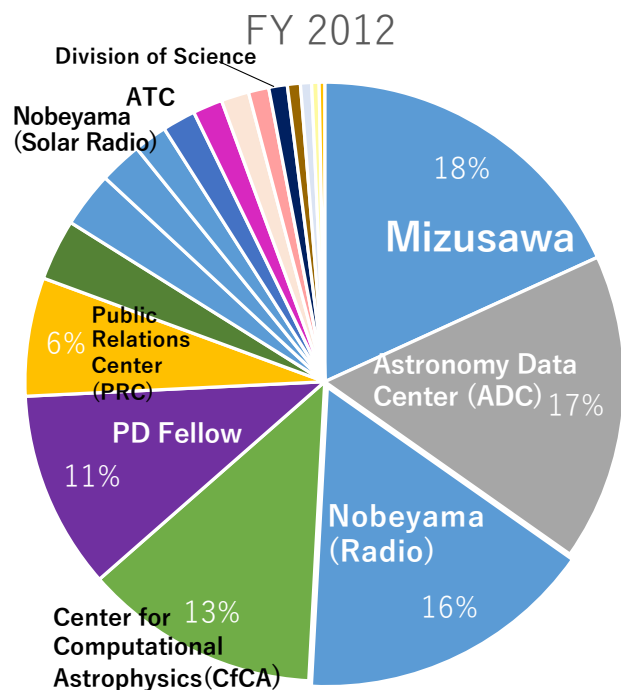
FY 2023 Operation Expenses Grants (NAOJ)



※ allocations for functional enhancement expenses are for missions and strategies to be realized after FY 2022 (R4)

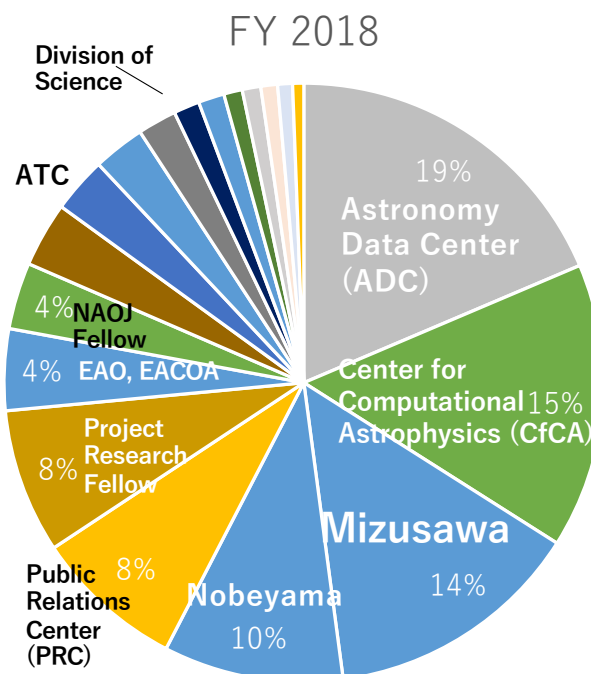
From Tsuenta-san's slides
at Fututure Sym. 2023

FY 2012, FY 2018, FY 2022 Operation Expenses Grants(1/2)



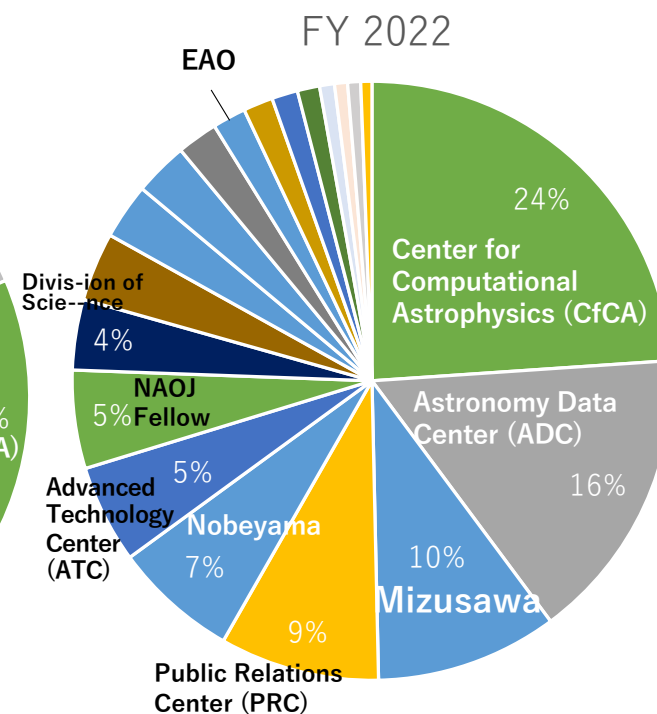
Breakdown of 2.63 billion yen out of the total 6.86 billion yen for operation expenses grants (excluding expenses for permanent staff, administration dept., and IT security)

※Division of Science refers to the total for all 5 divisions, including the divisions of Optical and Infrared Astronomy, Radio Astronomy, Division of Theoretical Astronomy, and Solar and Plasma Astrophysics



Breakdown of 2.8 billion yen out of the total 6.1 billion yen for operation expenses grants (excluding expenses for permanent staff, administration dept., and IT security)

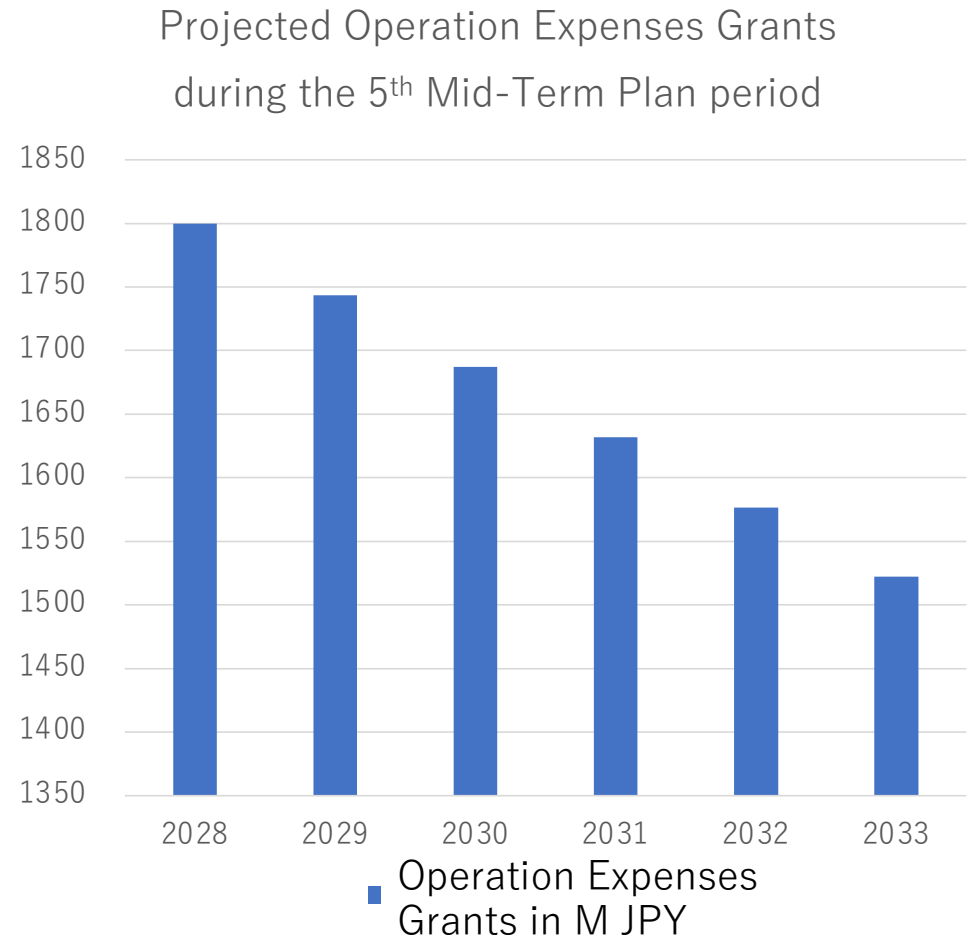
※In FY 2018, allocations for EAO and EACOA were organized under one budget



Breakdown of 1.93 billion yen out of the total 5.94 billion yen for operation expenses grants (excluding expenses for permanent staff, administration dept., and IT security)

Expectation of Operation Expenses Grants during the 5th Mid-Term Plan period

- Assumption
 - Operation Expenses grants in FY 2028 is 1.8B JPY
 - Efficiency factor is 1%, the same as in the 4th period
 - Personnel expenses are the same as the FY2024 projection
 - Electricity costs are assumed to be the same as the FY2024 forecast
 - Personnel expenses, administrative department, information security, etc. are excluded from the graph
 - Supercomputer and supercomputer electricity costs are excluded (as a fixed value)
- Special factors
 - Assumes that the supercomputer lease will continue until FY2030 and the same amount thereafter



Call for Proposals for NAOJ Science Roadmap

1. If you have any request to LOI/Proposal Document, please contact the e-mail address below before Sep 13.
2. Groups wishing to be included in NAOJ's Science Roadmap should submit a letter of intent (LOI).
 - Starting Date : 2024/9/17
 - Deadline : ~~2024/10/4~~ => 2024/10/18
 - Submit to : naoj-srm2024@ml.nao.ac.jp
3. Download the template file of LOI and Proposal Document :
<https://www.nao.ac.jp/for-researchers/naoj-futureplan/srm.html>

Final remark

This is an important activity that will create the future of NAOJ.

Your cooperation and participation are highly appreciated.