



Geospace Research Instrumentation: NSF Opportunities

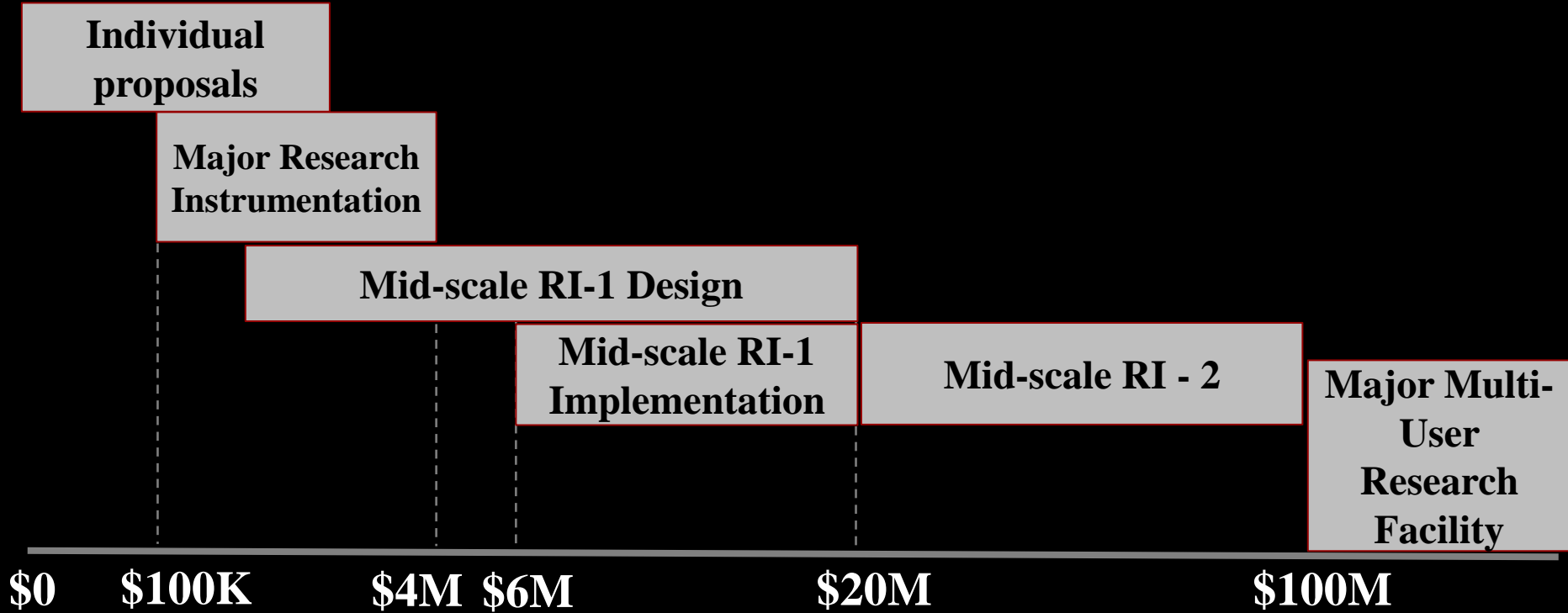
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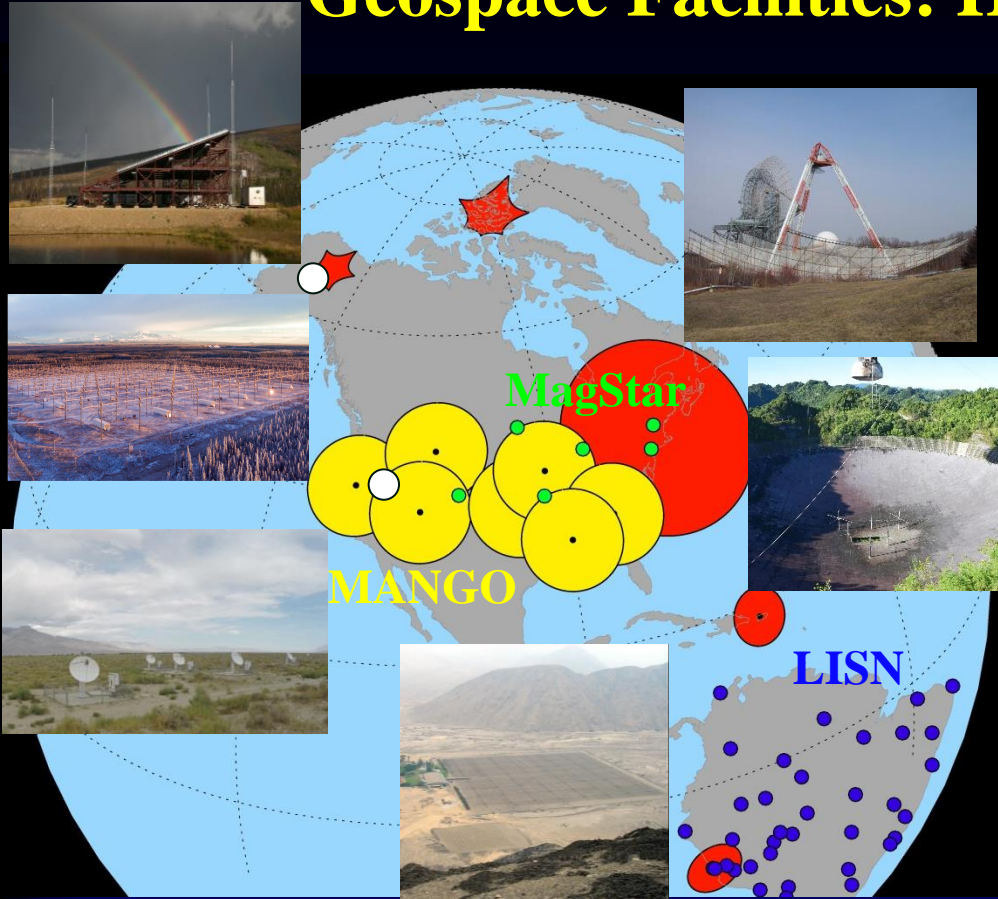
Division of Atmospheric and Geospace Sciences



NSF Opportunities for New Instrumentation



Geospace Facilities: History and Projects



Class 1 Incoherent Scatter Radars (ISRs)

- Resolute Bay 2009
- Poker Flat 2007
- Arecibo 1963 1969
- Jicamarca 1961 1979
- Millstone Hill 1958 1974

Class 2 DASI Track 2

- MagStar 2020
- MANGO 2019
- LISN 2020

Class 2

- AMPERE 2008
- CCMC 1999
- HAARP 2021
- EOVSa 2021

Major Research Instrumentation (MRI)



- Proposal submission window January 1-19
- Two proposal tracks, based on budget request:
 - Track 1: \$100k to \$1M, Limit 2 per institution
 - Track 2: \$1M to \$4M, Limit 1 per institution, should address the regional or national impact of the instrument
- Cost sharing *required* for PhD-granting and non-degree-granting institutions (30%)
- Cost sharing *prohibited* for non-PhD granting academic institutions
- GS has made 7 MRI awards over the last 5 years: 3 AER, 1 MAG, 3 STR



Mid-scale Research Infrastructure (MsRI-1 and MsRI-2)

- The Mid-scale RI program is a NSF-wide effort to meet the research community's needs for modern research infrastructure at a scale that is otherwise difficult for individual institutions to acquire
- Mid-scale RI – 1 proposals can be for Design or Implementation
 - The Design track is intended to facilitate readiness for a mid-scale implementation project
 - Both tracks may involve new or upgraded research infrastructure
 - Design proposals may range from \$600k to \$20M
 - Implementation projects are between \$6M and \$20M
- Mid-scale RI – 2 proposals are implementation-only, for projects in a *high state of project and technical readiness* in the range of \$20M to \$100M
- Mid-scale RI-2 is intended to support *visionary* projects that are *high-priority national needs* as identified by research communities of the US

MsRI-1 and MsRI-2: Future



MsRI-1 (19-537) - prelim due 2/19/19 - awards in summer 2019

MsRI-1 (21-505) - prelim due 1/7/21 - awards in summer 2021

MsRI-1 (23-xxx) - prelim due early 2023?

MsRI-2 (19-542) - LOI due 2/14/19 - awards in Fall 2020

MsRI-2 (21-537) - LOI due 2/3/21 - review in process, awards likely in Fall 2022

MsRI-2 (23-xxx) - LOI due early 2023?

Tips for making the best MsRI proposal:

- Pay attention to the Solicitation-Specific Review Criteria
- The more community buy-in, the better. National Academy reports hold a lot of weight, but also workshop reports, etc
- Emphasize the uniqueness of the development
- Include a direct training component, not just students as users down the line
- Pay attention to Broader Impacts and DEA
- Read the Major Facilities Guide. Project execution is a crucial aspect of review

Geospace Research Instrumentation: Some Thoughts

- **MRI**

- Reasonably successful in securing MRI funding

- **MsRI**

- No success todate
- Other successful projects had most community behind

- **Geospace Facilities Program**

- Supports a limited number of geospace community facilities
- Leverages other opportunities, outside NSF
- Needs additional investment to fully realize Innovation & Vitality part of PRC
- Works closely with other GS programs (AER, MAG, STR, SWR)