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# Scientific Productivity

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SOFIA Users Group #14

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## Status of Guest Observer Projects

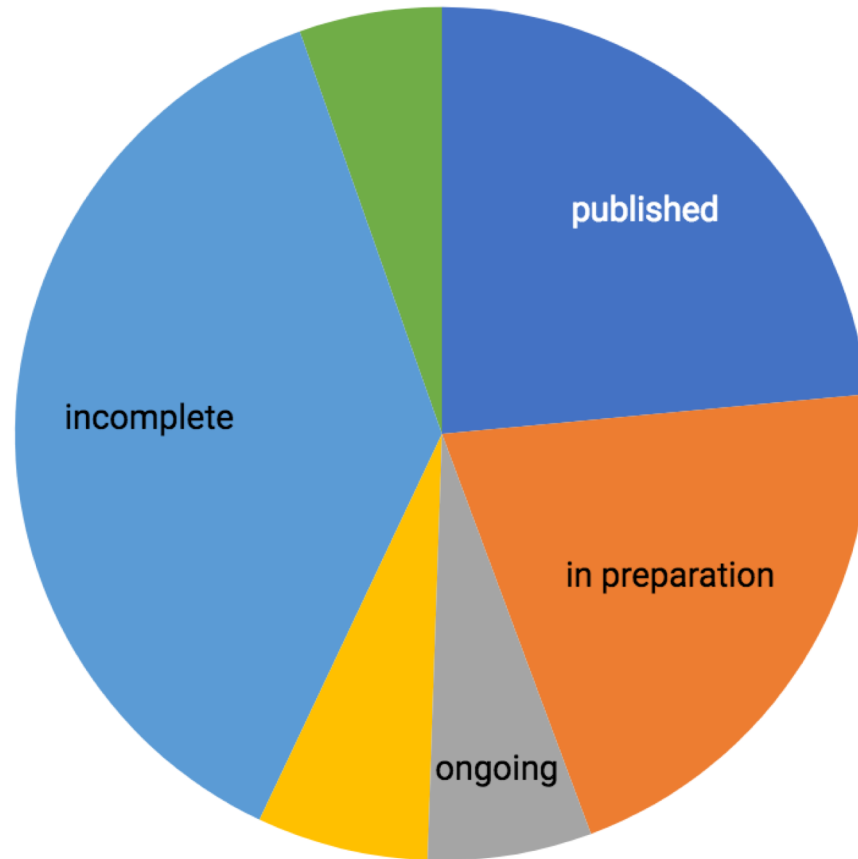
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Each project dispositioned into one of these categories:

- **Published**: refereed journal article using data
- **Ongoing**: will be combined with upcoming observations
- **In preparation**: GO working on draft/plans to write
- **Incomplete**: less than half of proposed observations complete, or GO indicates cannot publish subset
- **Unpublishable**: GO or SMO believe scientific results will never be obtainable with the acquired data

# Status of Guest Observer Projects

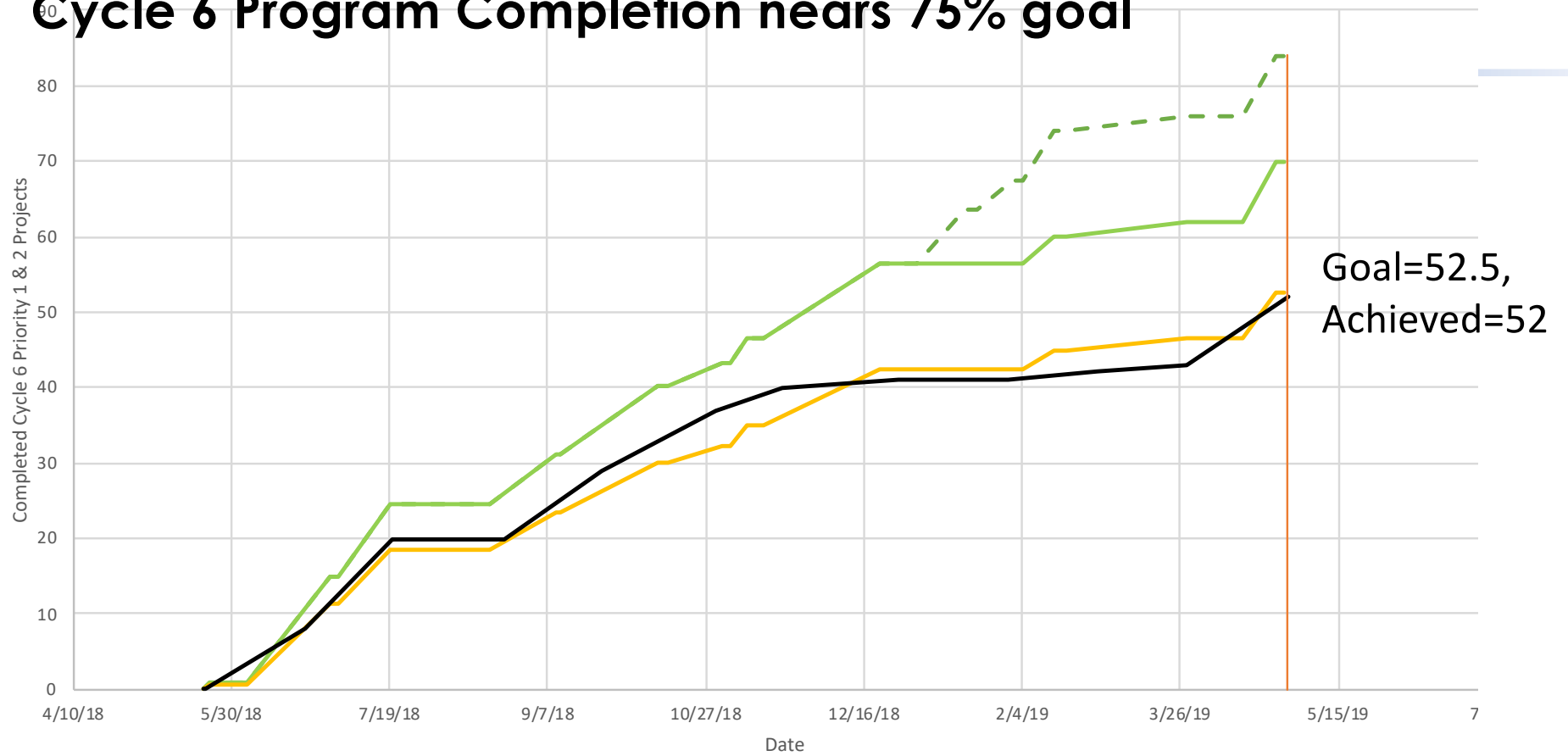
Cycles 1-5, DDT



# Analysis of Incompleteness

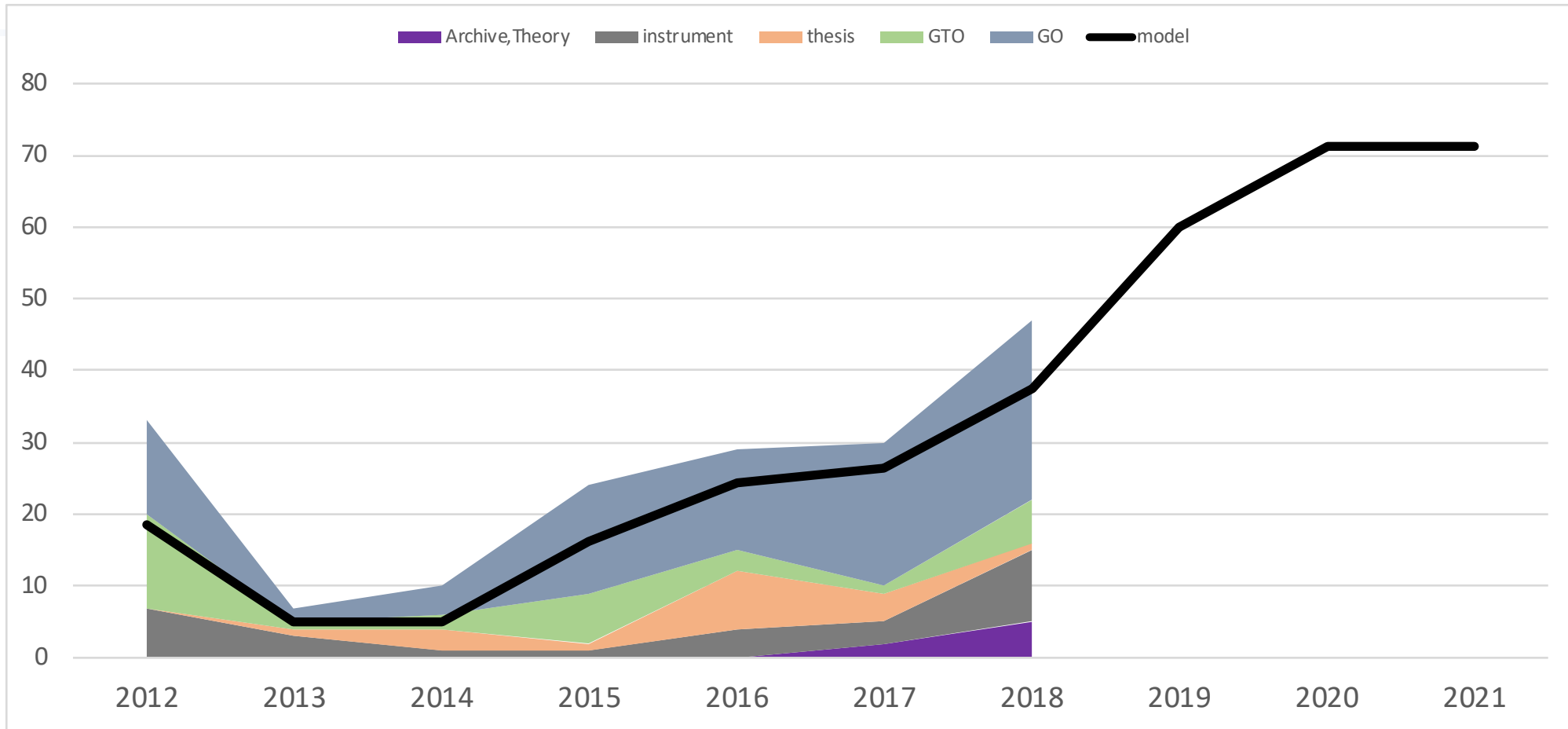
- REPORTED LAST SUG:
  - Cycle 5 plagued by incomplete programs
  - Cycle 6, mitigation: Accept Priority 1+2 programs up to 75% of available time
- NEW ANALYSIS
  - 69% “Do if Time” programs, accepted as fillers, are incomplete
  - 40 proposals that were “incomplete” were completed in later Cycles
    - Resubmission of proposals is normal procedure for Priority>1
  - Removing fillers, for Cy1-5,  $131/348=38\%$  of GO proposals completed
  - Adding back those that were completed later, 49% completed
  - Some “incomplete” (<80% of awarded time) are published
  - Some ToOs are not triggered
  - *SMO will continue to work on improving completion percentage, but the situation is not as dire as reported in SUG13 (31% completion for Cycle 5)*

# Cycle 6 Program Completion nears 75% goal



- - Baseline before Shutdown 
 — Post-Shutdown Completion Plan 
 — Completion Goal 
 — Completed Programs

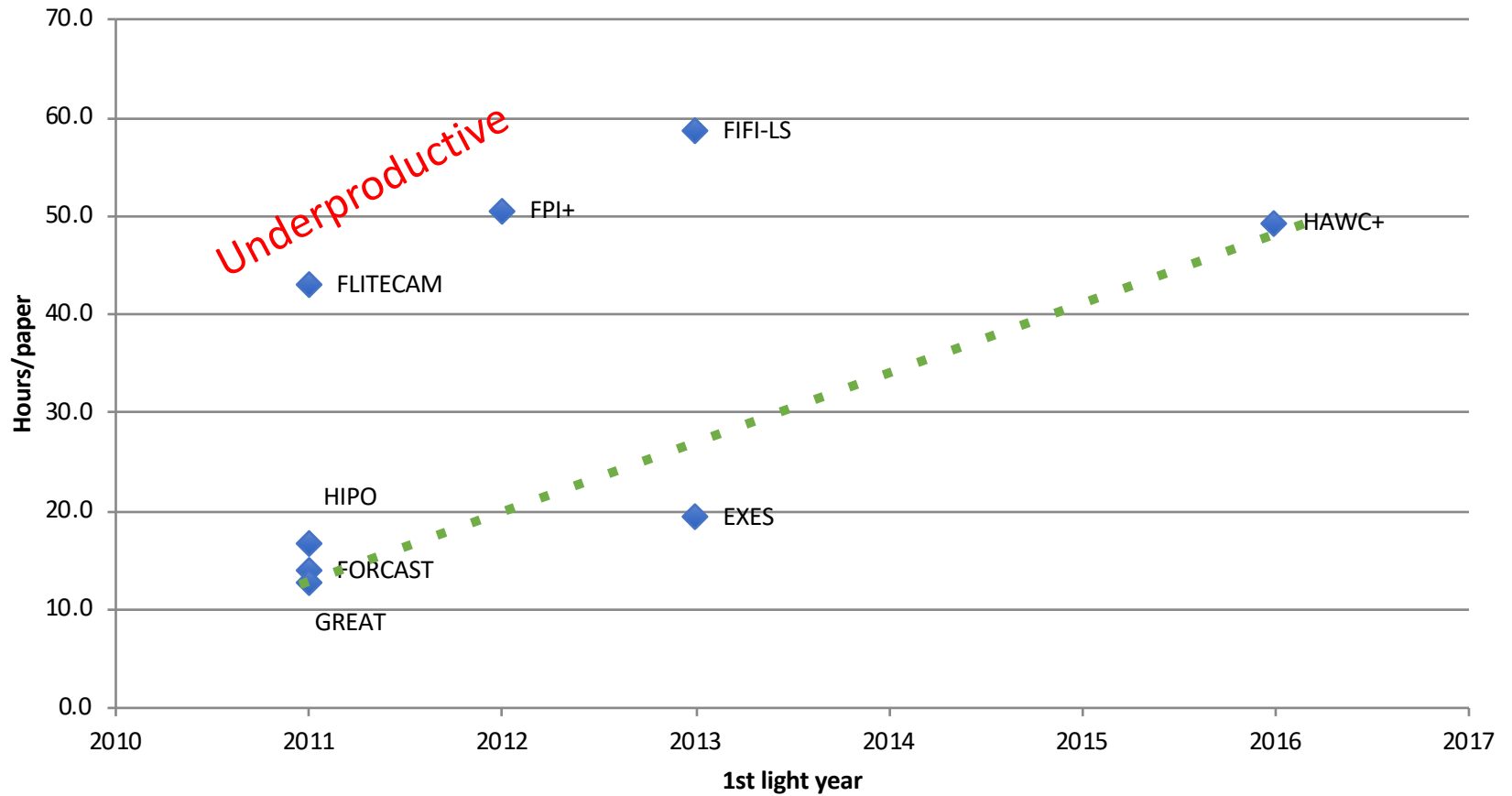
# Cumulative Refereed Scientific Publications



## Rates by Science Instrument

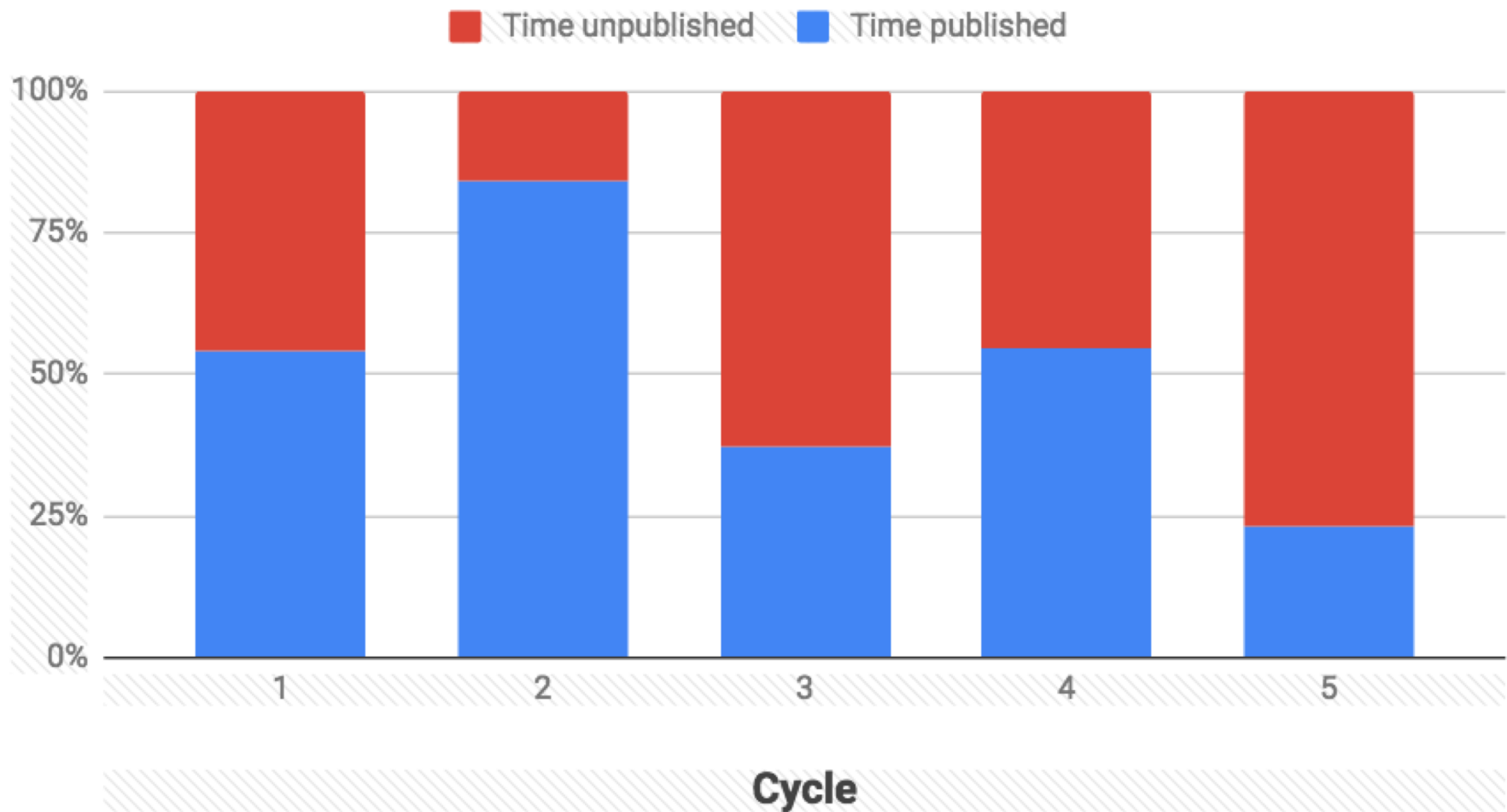
SI	#Papers	#Cites	GI+GTO hours	Hours/Pa per	poisson unc	Pub Rate Rank	Cites/ hr	Cite Rate Rank
FORCAST	47	498.25	663.2	14.1	2.1	2	0.75	1
GREAT	63.75	601	814.3	12.8	1.6	1	0.74	2
HIPO	2.3	25.3	20.9*	16.7	11.0	3	0.66	3
FLITECAM	2	15	68.7*	43.1	30.5	5	0.17	4
FIFI-LS	5.75	32.25	337.7	58.7	24.5	8	0.10	5
EXES	11	17	214.2	19.5	5.9	4	0.08	6
FPI_PLUS	0.2	0.2	2.1*	50.7	113	7	0.02	7.5
HAWC_PLUS	5	5	247.1	49.4	22.1	6	0.02	7.5

# SI Maturity leads to Productivity





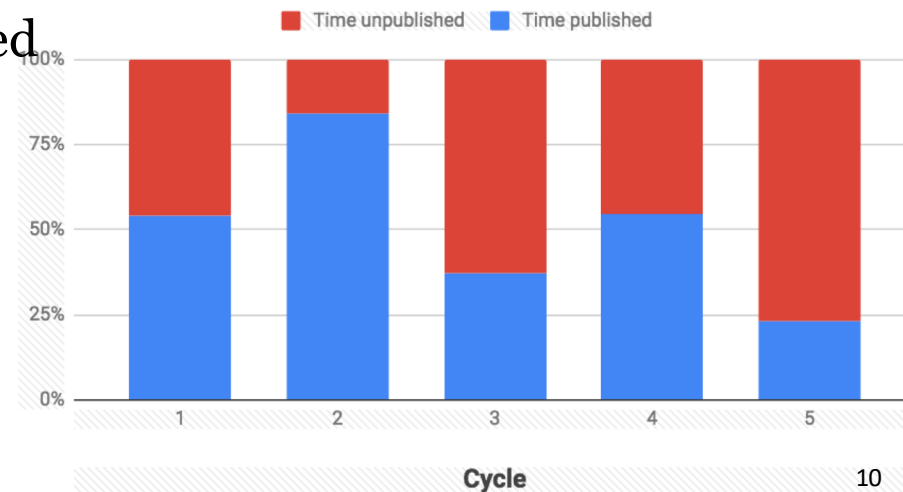
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## Interpretation:

- Older data have more time to get published
  - 2.5 yr based on Hubble, Chandra other publication rate studies
  - expect “wave” with crest ~2.5 Cycles back
- Cycle 3: 24 projects status “in preparation”
  - Those programs had 84 hr observed
  - Adding: would make Cycle 3 70% published



## Archival Research

- SOFIA is increasing impetus for archival research
- SOFIA is now in the Infrared Science Archive: [irsa.ipac.caltech.edu](http://irsa.ipac.caltech.edu)
  - Currently serves Cycles 2-5 for GREAT, FORCAST, FIFI-LS
  - By end of 2019, will have all Cycles, all science instruments
- Future development of IRSA for SOFIA
  - Spectroscopic exploratory analysis tools
  - Curated SOFIA software “container”
- Process for identifying IRSA enhancements
  - IRSA Users Panel
  - SOFIA science outreach group
  - Direct communication with SOFIA guest observers