

Increasing diversity and Inclusion in the Leadership of Competed Space Missions

Demographics of the Space Sciences Workforce

AIP & SRC

- AIP is a federation of scientific societies in the physical sciences.
 - Including AAS and APS
- AIP is an institute that operates as a center of excellence supporting the physical sciences enterprise.
 - Including the Statistical Research Center (SRC)
 - We do survey research.
 - I am Susan White, Director of the SRC at AIP.

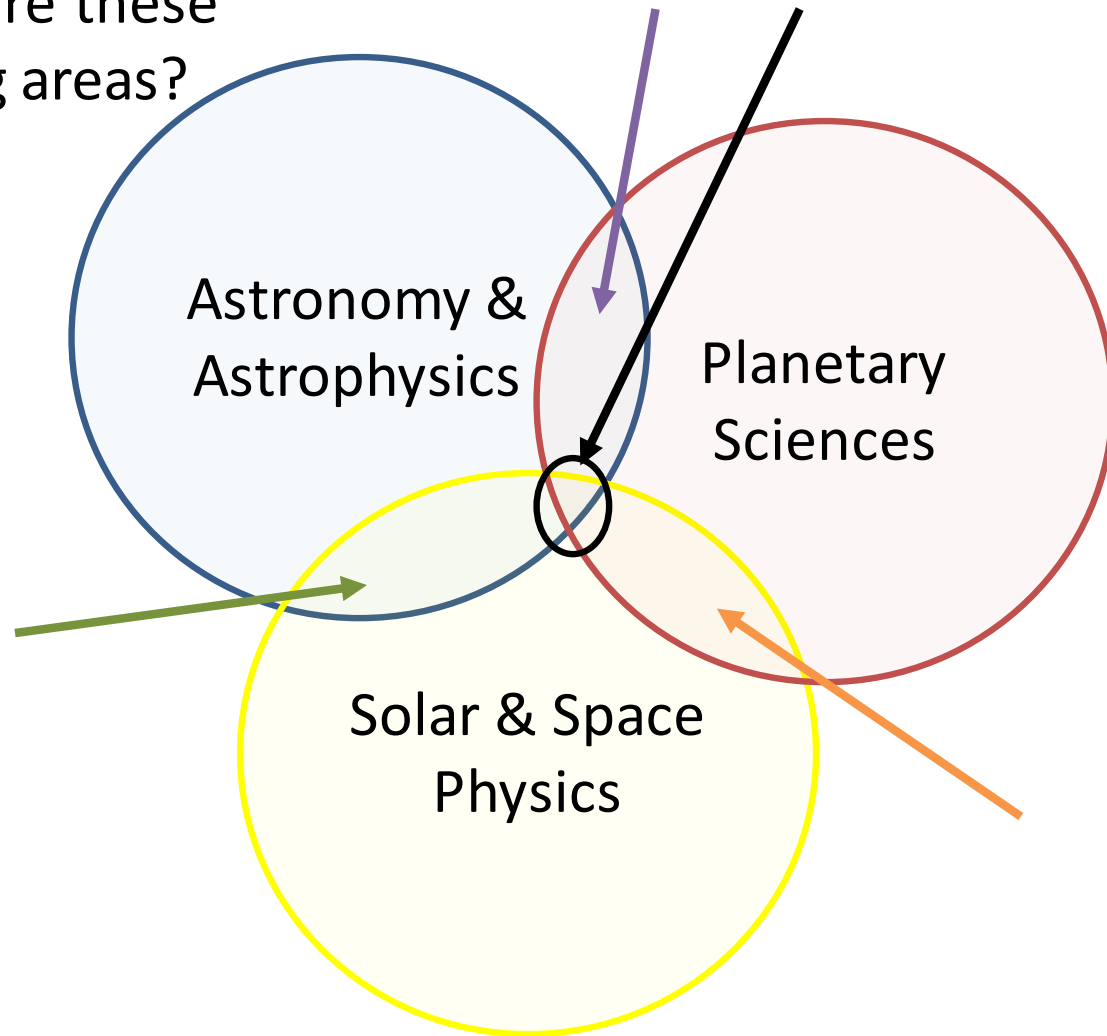
Relevant Studies We've Conducted

- 2011 Survey of Planetary Science Workforce
- 2011 Survey of Solar, Space & Upper Atmospheric Physicists
- 2018 Survey of AAS Members
- 2020 Survey of Planetary Science Workforce
 - All of these were contract surveys, so the funder “owns” the data.
 - We are sharing results from published reports.

Comparison of Surveys

	2011 SPSW	2011 SSSUAP	2018 AAS	2020 SPSW
US residents?	US email address extensions	US residents only	US residents only	81% of resp's eligible to apply for US gov't grants or contracts
Includes students?	Limited to PhD recipients	Students excluded	Included student members	Graduate students & higher
Drawn from	LPSC, AGU SPS, AAS DPS	AGU SPA, AAS SPD, SWW, NSF PIs	Sample of AAS members	AAS DPS, LPSC
Potential respondents	4,252	2,560	3,354	4,965

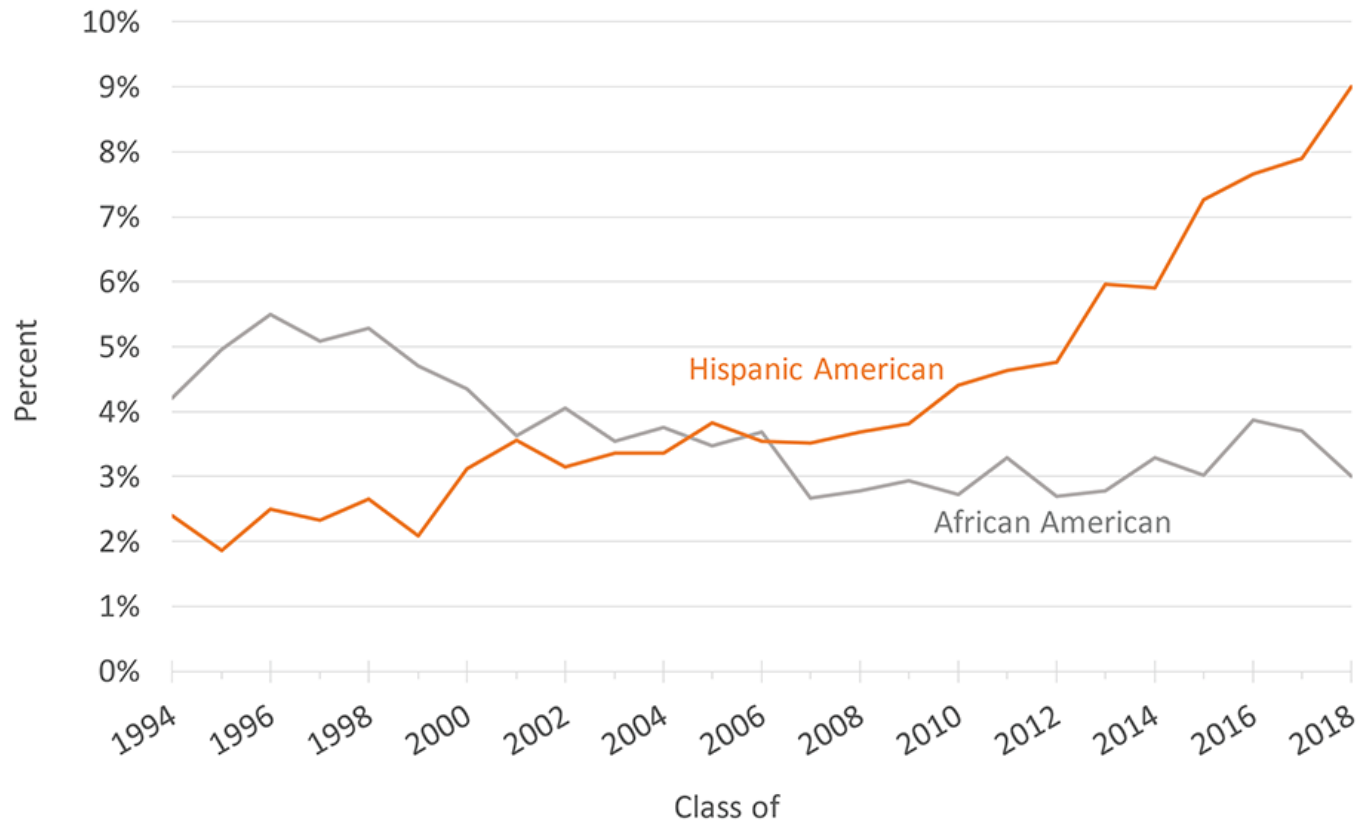
How large are these overlapping areas?



Note: not to scale

RACIAL / ETHNIC DIVERSITY

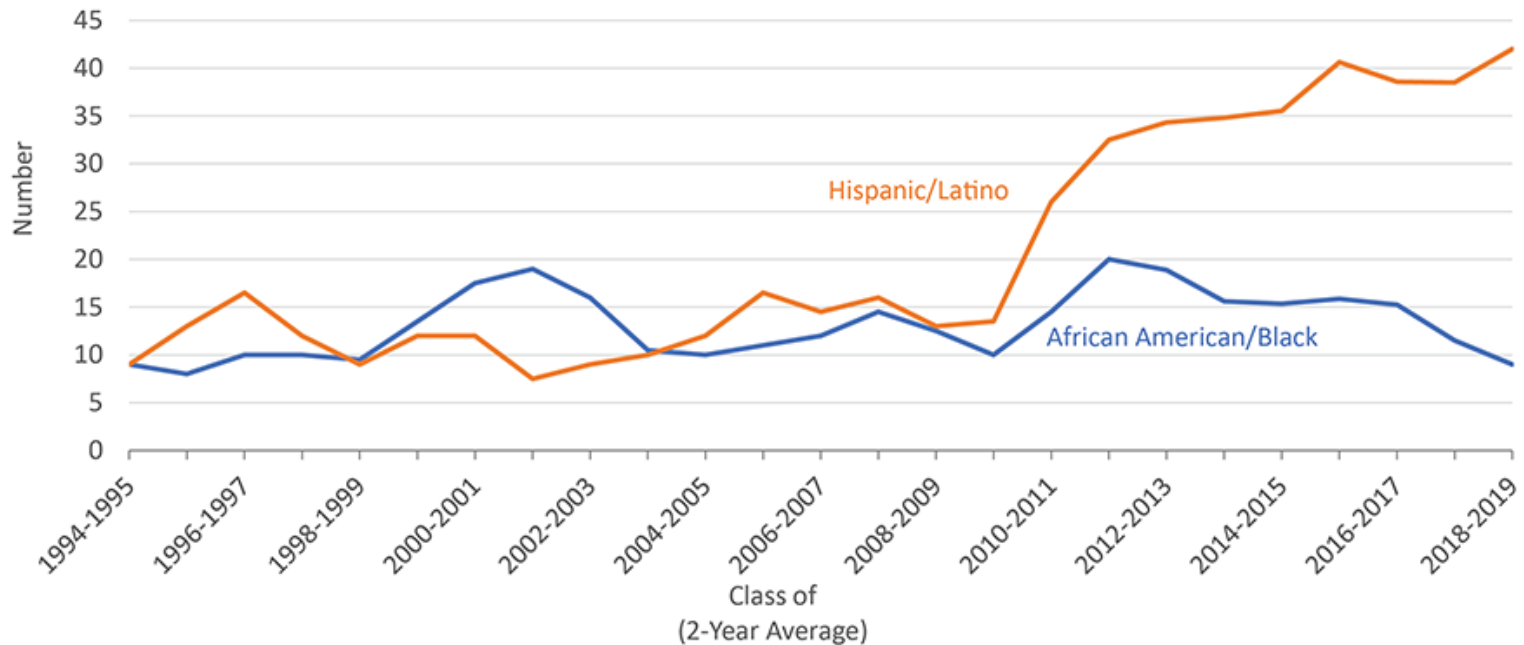
The Proportion of Physics Bachelor's Degrees Awarded to African Americans and Hispanic Americans



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Number of African American and Hispanic People Earning a Physics Doctorate, Classes of 1994 through 2019



2011 Survey of Solar, Space & Upper Atmospheric Physicists

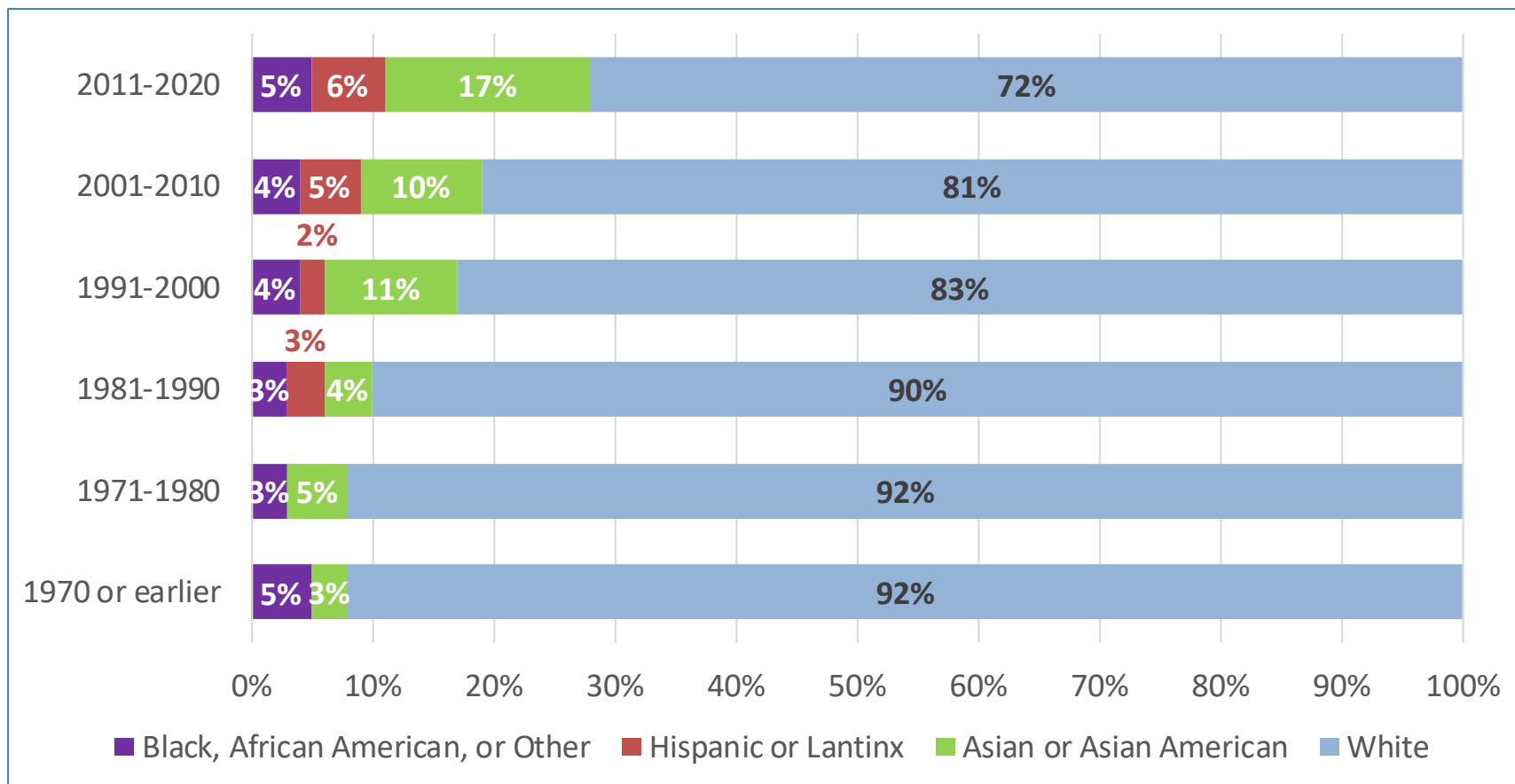
Race / Ethnicity	% of All Respondents	Respondents earning bachelor's degrees ...	
		1999 & Earlier	2000 & Later
Asian or Asian American	13	12	24
Black or African American	1	1	2
Hispanic or Latino	2	1	3
White	81	83	69
Other	3	3	2

Demographics in Planetary Science*

	2011 (%)	2020 (%)
Asian or Asian American	7	13
Black or African American	1	1
Hispanic or Latino	1	5
White	87	83
Other	2	4
More than one race	2	Not calculated
American Indian or Alaska Native	Not asked	1
Native Hawaiian of Other Pacific Islander		<1

* Note: the race & ethnicity question was not worded the same on both surveys, and potential respondents were drawn using different criteria.
Comparisons are not reliable.

Planetary Science, Race/Ethnicity by year of highest degree



From 2020 Study

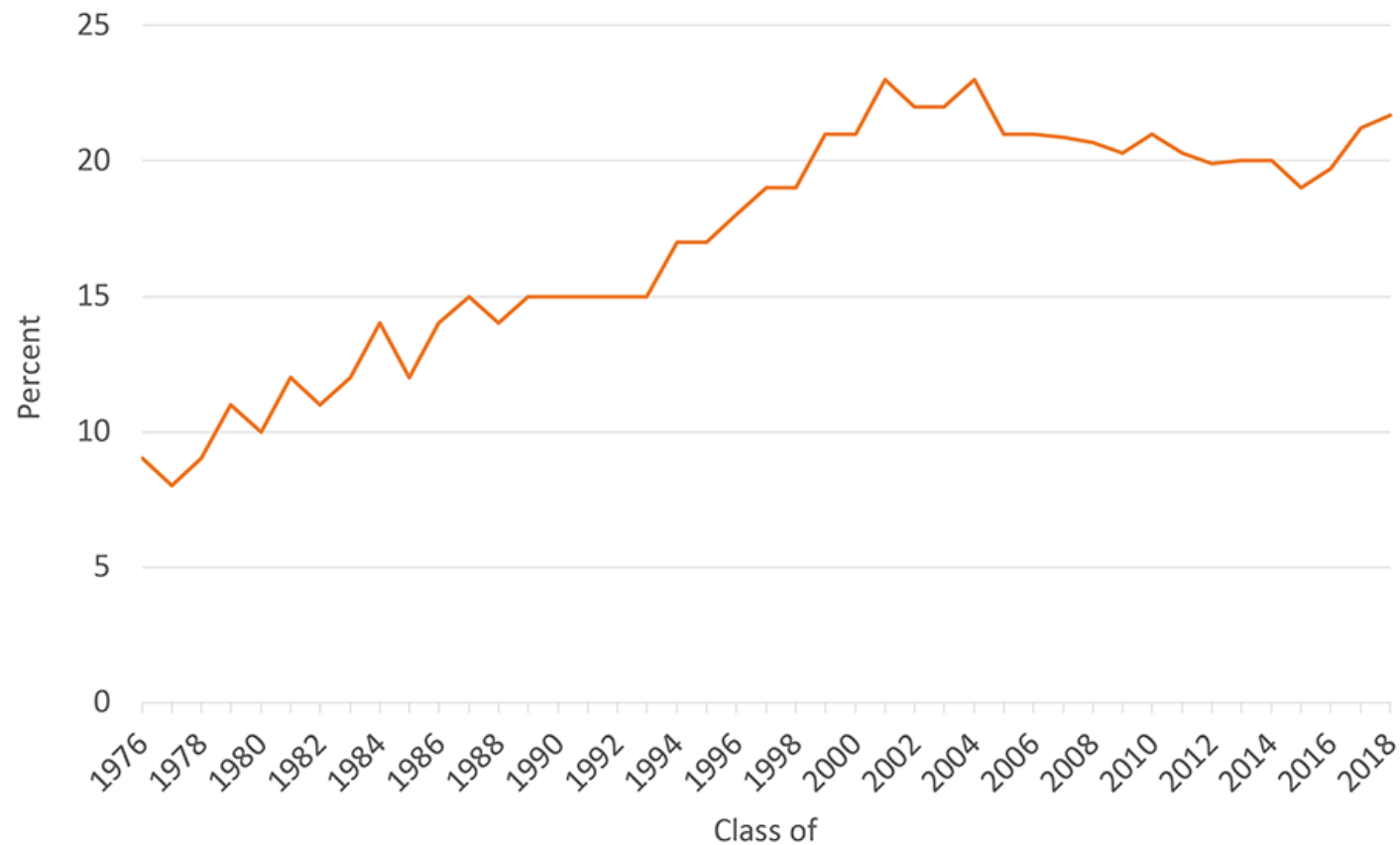
US AAS Members, 2018

Ethnicity of US AAS Members, 2018		
Ethnicity	%	N
White	82	1586
Asian or Asian American	9	181
Hispanic or Latino	5	91
Black or African American	2	30
American Indian or Alaska Native	1	18
Other	2	43
Prefer not to respond	4	78

Sum of percentages exceeds 100 because respondents were asked to check all that apply.
Categories with <10 respondents are not included.

GENDER DIVERSITY

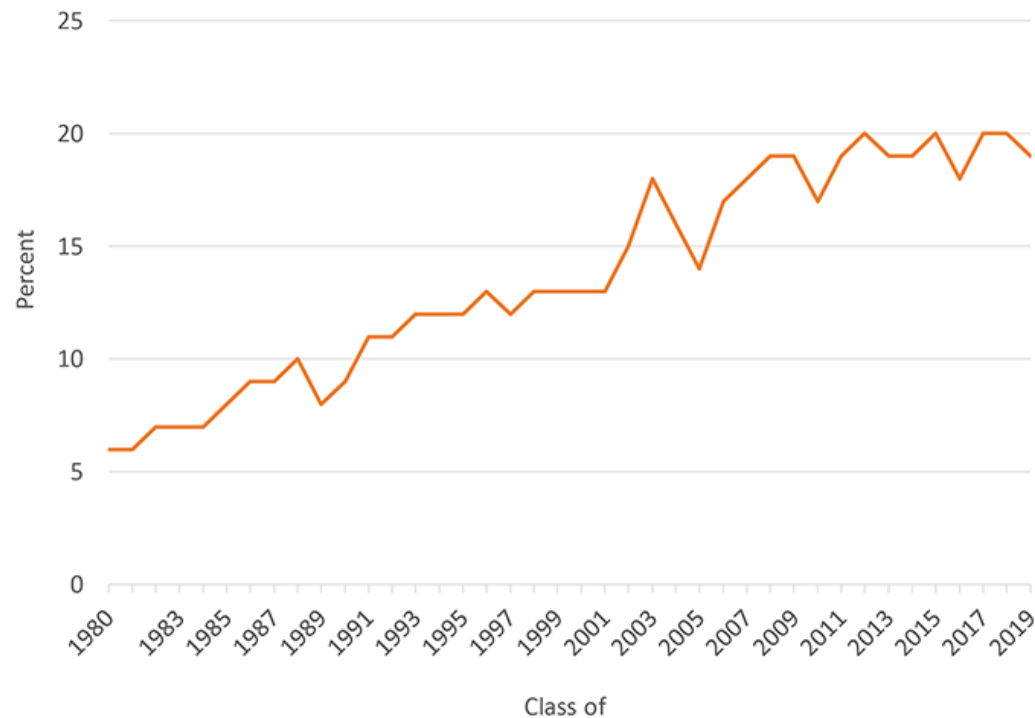
Percent of Physics Bachelor's Conferred to Women



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Percent of Physics PhDs Earned by Women, Classes 1980 through 2019



AIP | Statistics

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2011 Survey of Solar, Space, & Upper Atmospheric Physics

- 17% of respondents indicated they were women
- 83% indicated they were men

US AAS Members, 2018

Gender of US AAS Members by Age Group, 2018			
	Born before 1985	Born 1985 or after	Total
	%	%	%
Men	74	52	67
Women	24	46	31
Other	-	2	1
Prefer not to respond	2	1	2
Total	1295	607	1902

Planetary Science: Gender Identity & Race/Ethnicity, 2020

	Asian or Asian American	Black, African American, or Other Race / Ethnicity	Hispanic or Latinx	White
Women	38%	48%	50%	37%
Men	62%	51%	47%	62%
Another gender identity	0%	1%	3%	1%

Overall: 37% women, 62% men, and 1% another gender identity

10% of respondents identified as a member of the LGBTQ+ community

DISABILITIES

US AAS Members, 2018

Disabilities Among US AAS Members, 2018		
Disability	%	N
I have a mental illness	7	123
I have an autoimmune or pain disorder, or other chronic condition	4	80
I am deaf or hard-of-hearing	4	71
I have disabling allergies, asthma, or other environment sensitivities	2	35
I am neuroatypical	2	33
I have difficulty seeing even when wearing glasses	1	25
I have serious difficulty standing, walking, or climbing stairs	1	24
I have a cognitive or learning disability	1	24
Other disability	2	40
None of the above	82	1487
Prefer not to respond	4	75

Percentages add to more than 100% because respondents were asked to check all that apply

Planetary Science, 2020

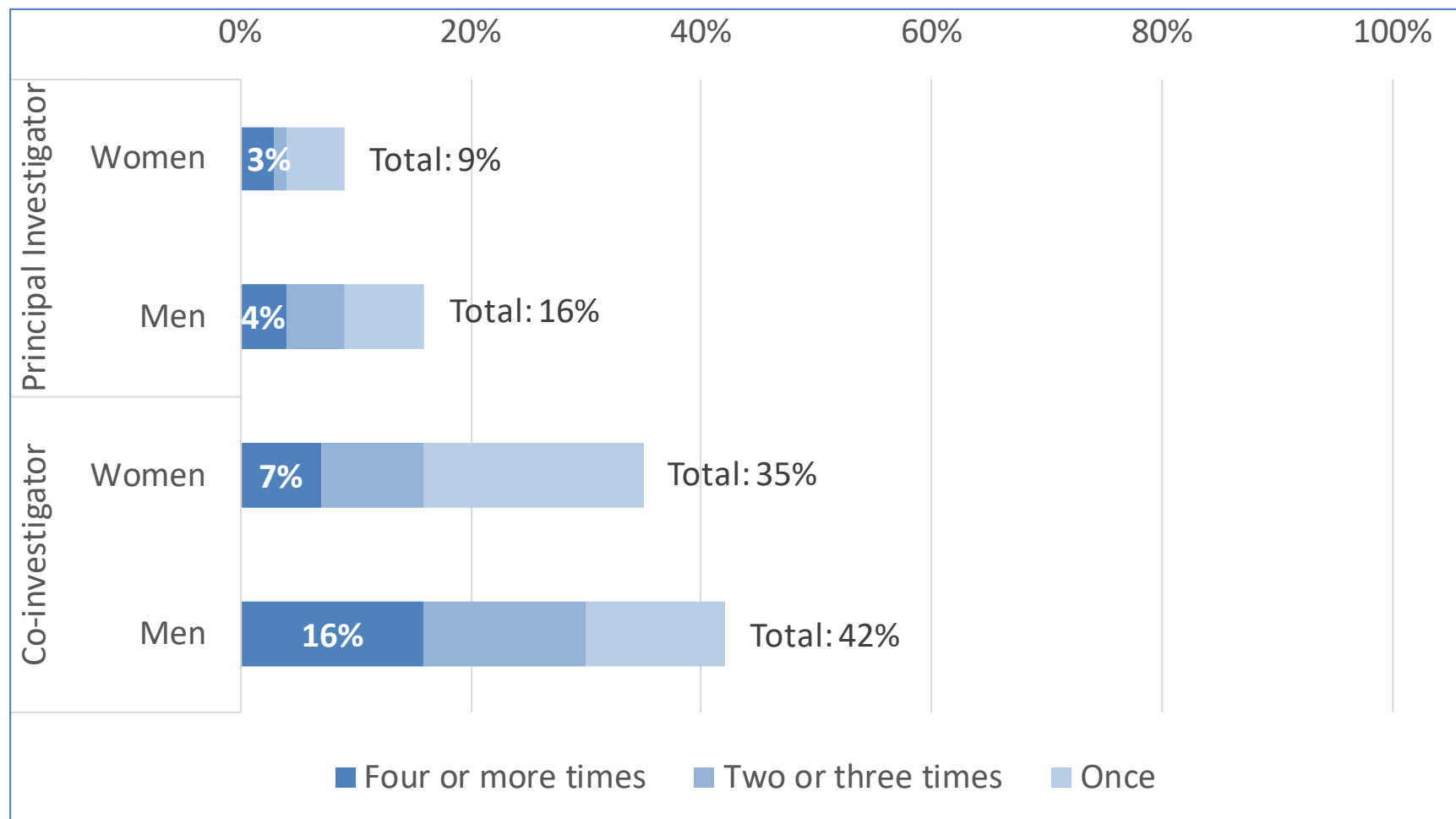
- 15% of respondents identified as having a disability
 - Accessibility aids used included
 - quiet spaces (6%),
 - dietary accommodation (6%),
 - audio devices (3%),
 - closed captioning (3%), and
 - environmental adjustments (lighting, air, noise, etc., 3%).

RESEARCH & MISSION PROPOSALS

2011 SSSUAP

Over the last 10 years, I have ... (Select all that apply)	% of respondents
Served as NASA PI	4%
Served as NASA CO-I	18%
Served as NASA instrument PI	6%
Served on NASA PSP	4%
Been funded, but not named	23%
Participated in some other way	17%
% indicating involvement in some way	50%
% indicating no involvement in NASA mission	50%

Planetary Scientists on Mission Proposals



Thank you!

For more information

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