

Astronomy Faculty

Results from the 2008 Survey of Physics & Astronomy Degree-Granting Departments

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A Closer Look at Astronomy Faculty

**REPORTS ON
PHYSICS &
ASTRONOMY
FACULTY**

Number of Physics Faculty
(October 2009)

**Astronomy Faculty
(December 2009)**

Minorities among Physics &
Astronomy Faculty
(February 2010)

Hiring in Physics &
Astronomy Departments
(April 2010)

The Academic Workforce Survey has collected data on faculty in physics departments since 1986. Physics departments offer degrees in physics or physics and astronomy. In 2006, we began asking these departments to tell us about faculty members who specialized in astronomy or astrophysics for their dissertation research. We combine this information with data collected from 37 departments that offer degrees only in astronomy to take a closer look at astronomy faculty. For the 2007-08 academic year, we estimate that 620 full-time equivalent (FTE) faculty members were employed by the 37 departments that award degrees only in astronomy. In addition, we estimate that 1,060 astronomers were employed in 430 physics departments (out of a total of 763 physics departments). The data are provided in Table 1.

Table 1

**Total Full-Time Equivalent (FTE) Astronomy Faculty
in Astronomy & Physics Departments**

Degrees Awarded by Department	Year	
	2006	2008
Astronomy only	580 (37)	620 (37)
Physics*	1,020 (406 [†])	1,060 (430 [†])
TOTAL	1,600 (433)	1,680 (467)

(Number of Departments given in parentheses)

* Astronomy faculty in physics departments are defined as those who specialized in astronomy or astrophysics for their dissertation research.

[†] There are 763 physics departments; this number includes only those with astronomy faculty.

<http://www.aip.org/statistics>

**THE 2008 SURVEY OF
PHYSICS &
ASTRONOMY DEGREE-
GRANTING
DEPARTMENTS**

During the spring semester of 2008, we contacted all of the departments in the US that offered at least a bachelor's degree in physics and/or astronomy. These reports describe our findings.

Temporary and Non-Tenure Track Faculty

About one faculty member in five in departments that award degrees only in astronomy is employed in a non-tenure track temporary or permanent position. The proportion of faculty in these non-tenure-track positions is higher in departments that award degrees only in astronomy than in physics departments. However, for these faculty members, the distribution across temporary and permanent positions differs by type of department. In astronomy-degree-only departments, over 60% of the non-tenure-track positions are permanent; in physics departments, about 40% are permanent. The data for the total percent of faculty who are employed in a non-tenure track temporary and permanent positions are provided in Table 2 below with data from physics departments for comparison.

Table 2

Percent of Full-Time Equivalent Faculty Employed in Temporary or Non-Tenure Track Positions: Astronomy and Physics Departments, 2008

Degrees Awarded by Department	%
Astronomy only	22
Physics (PhD)	13
Physics (Master's)	20
Physics (Bachelor's)	20

<http://www.aip.org/statistics>

In astronomy-degree-only departments, over 60% of non-tenure track positions are permanent.

Minorities & Women in Astronomy and Physics Departments

Historically minorities and women have not been as well represented in physics as they have in other science fields. While women are somewhat better represented in departments that award degrees only in astronomy than they are in physics departments, the representation of minorities in both types of departments lags behind that of all other disciplines (including non-science fields). Table 3 presents data describing the minority presence among astronomy and physics faculty, and Table 4 provides details about astronomy faculty members who are women.

Table 3

Under-Represented Minorities Among Astronomy Faculty, 2008

Degrees Awarded by Department	African American %	Hispanic American %
Astronomy only	1	2
Physics	2*	3
All Disciplines ⁺	7	4

* Half of the African American astronomy faculty members in physics departments are employed at HBCUs.

⁺ Data for all disciplines (which includes non-science disciplines) found at <http://nces.ed.gov/fastfacts/display.asp?id=61>

<http://www.aip.org/statistics>

Minority representation among astronomy faculty lags behind that of other disciplines.

Table 4

Proportion of Faculty Members Who Are Women

	2006 %	2008 %
in departments that award degrees only in Astronomy	17	17
among Astronomy faculty* in Physics departments	no data	18
in Physics departments	12	12

* Astronomy faculty in physics departments are defined as those who specialized in astronomy or astrophysics for their dissertation research.

<http://www.aip.org/statistics>

About one faculty member in six at departments that award degrees only in astronomy is a woman. The proportion of women among faculty in physics departments is lower.

The small change in the proportion of women in physics departments is not suggestive of a long-term trend.

A future issue in this **focus on** series will examine minorities among physics and astronomy faculty in more detail.

Size of Departments

Departments that award degrees only in astronomy tend to be larger, on average, than physics departments. Table 5 provides data on the total and typical number of faculty members. The median number of faculty members in departments that award degrees only in astronomy is 12.5, while the median number of faculty members in physics departments is 7. There are thirty-seven physics departments that also award degrees in astronomy; these thirty-seven physics departments include 160 faculty members who specialized in astronomy or astrophysics for their dissertation research. There are an additional 393 physics departments that include astronomy faculty; the astronomy faculty in these physics departments are likely to have a colleague in their department who is also an astronomer.

Table 5

FTE Faculty Members in Physics & Astronomy Departments, 2008

Faculty	Number of Faculty Members		
	Total	Median	Middle 50%*
All faculty at departments that award degrees only in Astronomy	620	12.5	7 – 22
Astronomy faculty ⁺ at Physics departments	1,060	2	1 – 3
All faculty at Physics departments	9,100	7	4 – 15.5

* Number of faculty in middle 50% of departments – 25% of the departments have fewer faculty and 25% have more

⁺ Astronomy faculty in physics departments are defined as those who specialized in astronomy or astrophysics for their dissertation research.

<http://www.aip.org/statistics>

Departments that award degrees only in astronomy tend to be larger, on average, than physics departments.

Survey Methodology

Between March 20 and July 8, 2008, we contacted each of the 800 departments (763 physics departments and 37 departments that award degrees only in astronomy) that award at least a bachelor's degree in physics or astronomy by e-mail, mail, and certified mail. Up to seven follow-up contacts were made for departments that had not yet responded. We received responses from 749 departments (94%). We offer our sincere gratitude to the responding departments. Without your help, we could not track these data.