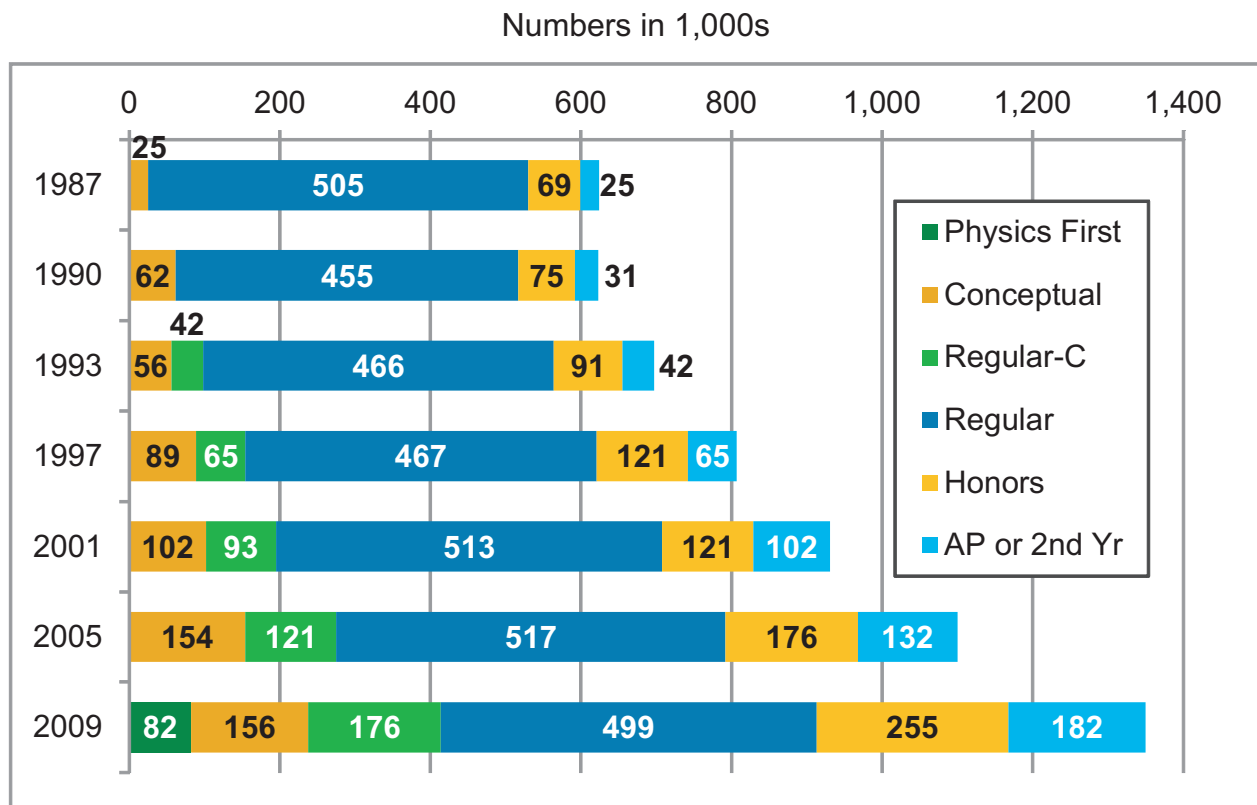


Physics Enrollment in US High Schools by Type of Course, 1987 – 2009



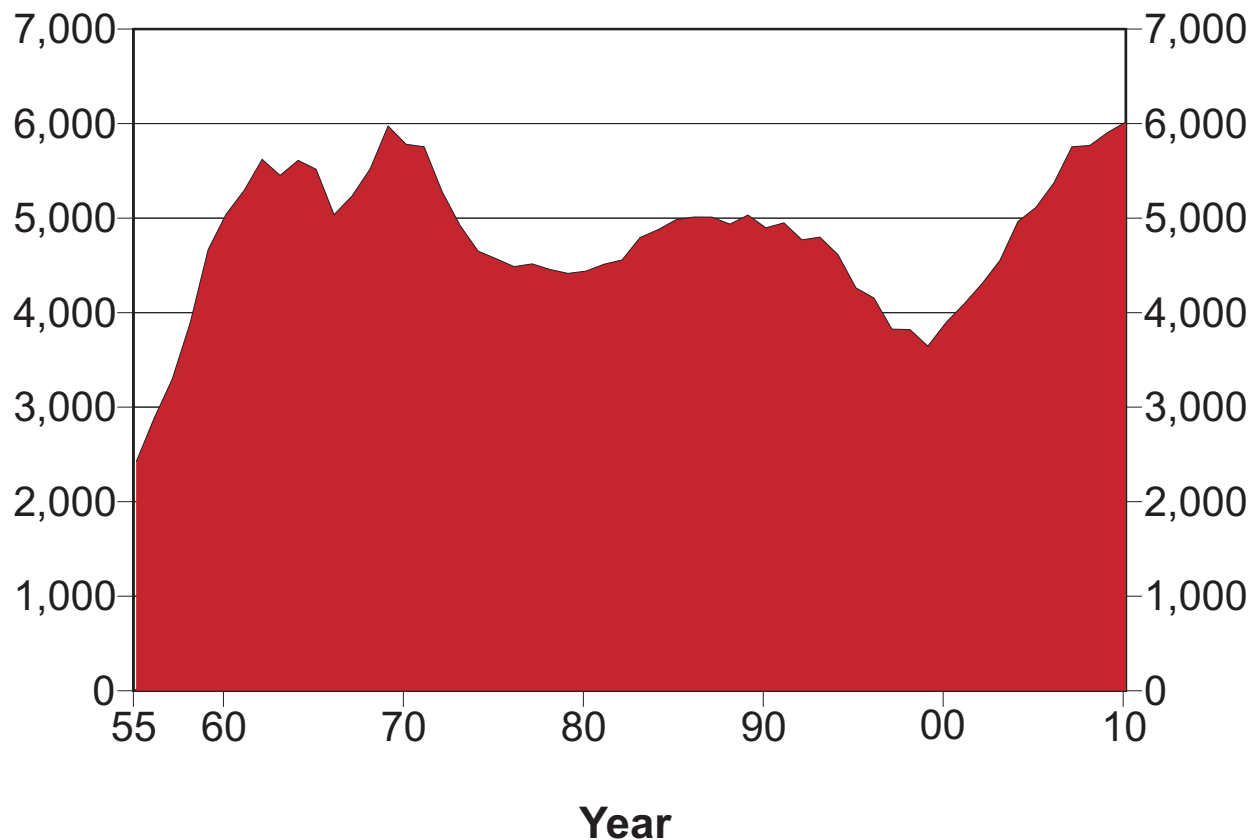
Physics First was explicitly included in the list of courses for the first time on the 2008-09 survey.

Regular-C refers to the regular course taught using a conceptual textbook.

Source: AIP Statistical Research Center, High School Teachers Survey.

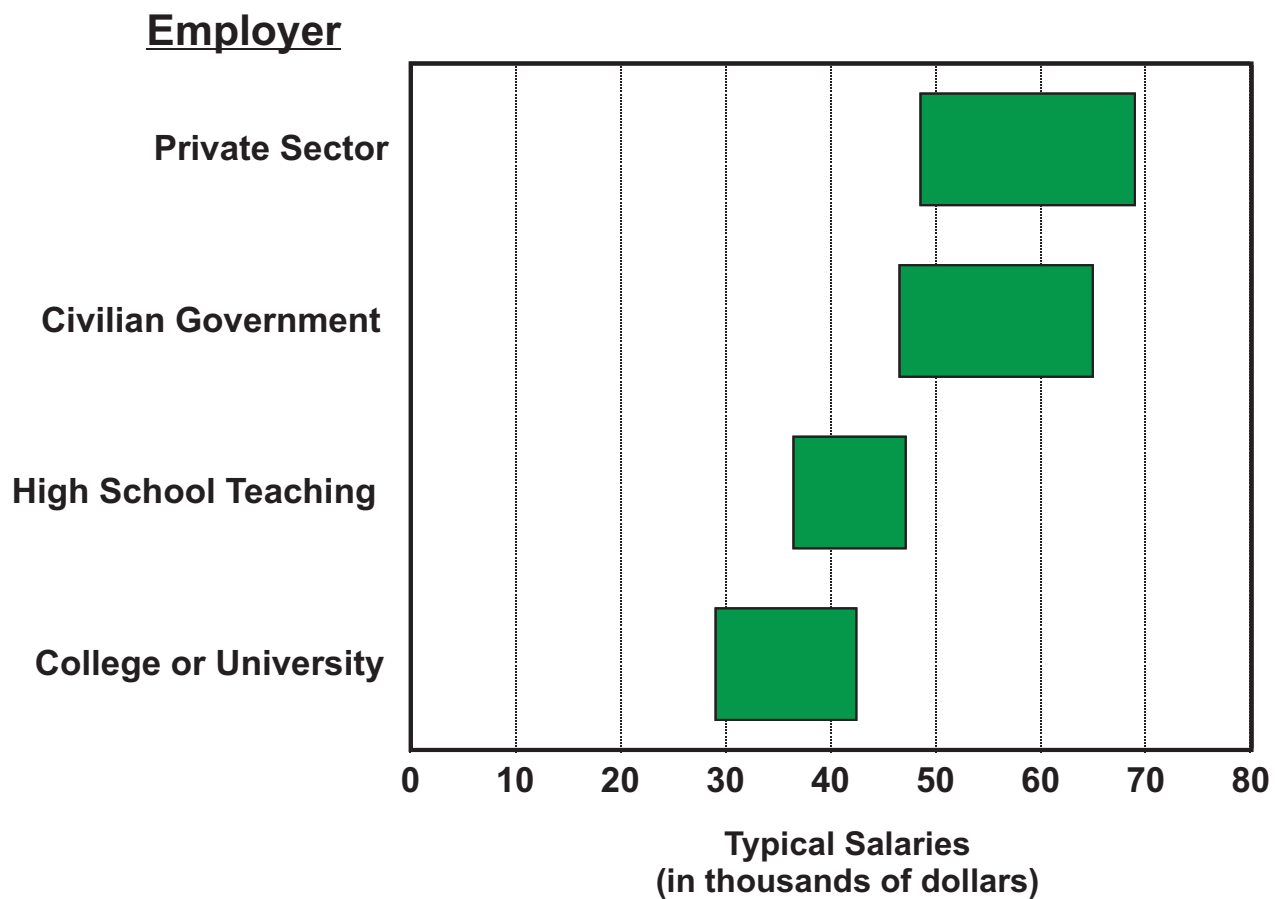
Largest Physics Bachelor's Class in U.S. History

Number



Source: AIP Statistical Research Center, Enrollments and Degrees Survey.

Starting Salaries for Physics Master's Classes of 2006, 2007 & 2008 Combined

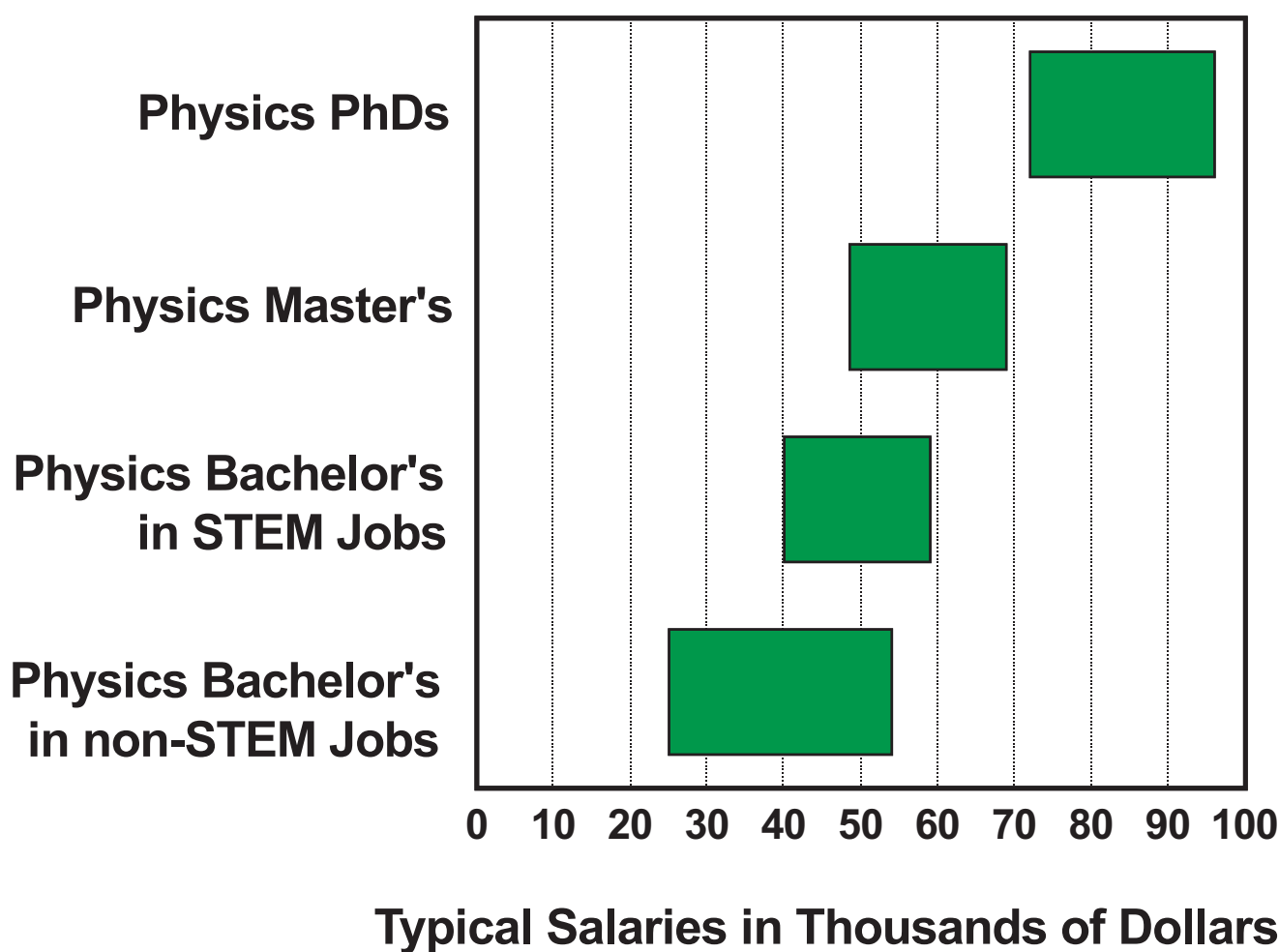


Note: Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles.
Figure does not include salaries for master's holding part-time positions.

Source: AIP Statistical Research Center, Initial Employment Survey.

Starting Salaries in the Private Sector

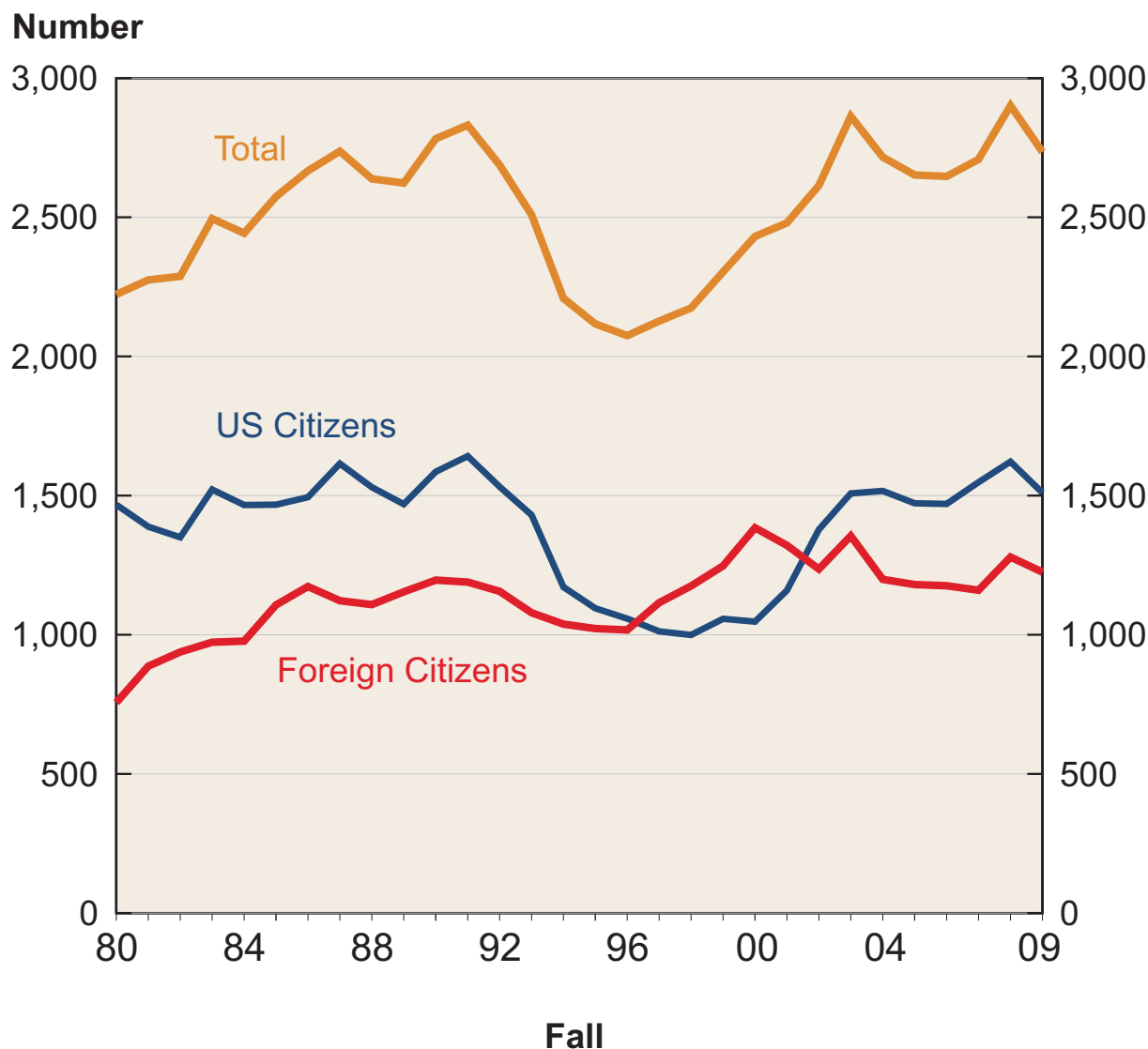
Physics Degree Recipients, Classes of 2007 & 2008



Note: Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles.
STEM refers to positions in Science, Technology, Engineering, and Math.

Source: AIP Statistical Research Center, Initial Employment Survey.

First-Year Graduate Student Enrollments PhD-granting Physics Departments



Source: AIP Statistical Research Center, Enrollments and Degrees Survey.

Physics Students Have Broad Interests

Most Common Double Majors of Physics Bachelors

- Mathematics
- Engineering
- Astronomy & Astrophysics
- Chemistry
- Music & Fine Arts
- Computer & Information Sciences
- Education & Teaching Certification
- Economics
- Philosophy & Theology
- Biology
- History & Political Science
- Geosciences

One-third of physics bachelors graduate with double majors

Source: AIP Statistical Research Center, Bachelor's Follow-up Survey, classes of 2007 & 2008.

Physics Bachelor's 1 Year Later

5760 Bachelor's Degrees

44%

56%

Employment

1210 Private Sector
280 College & University
240 High School Teaching
160 Active Military
130 Government
160 Other
340 Unemployed, seeking

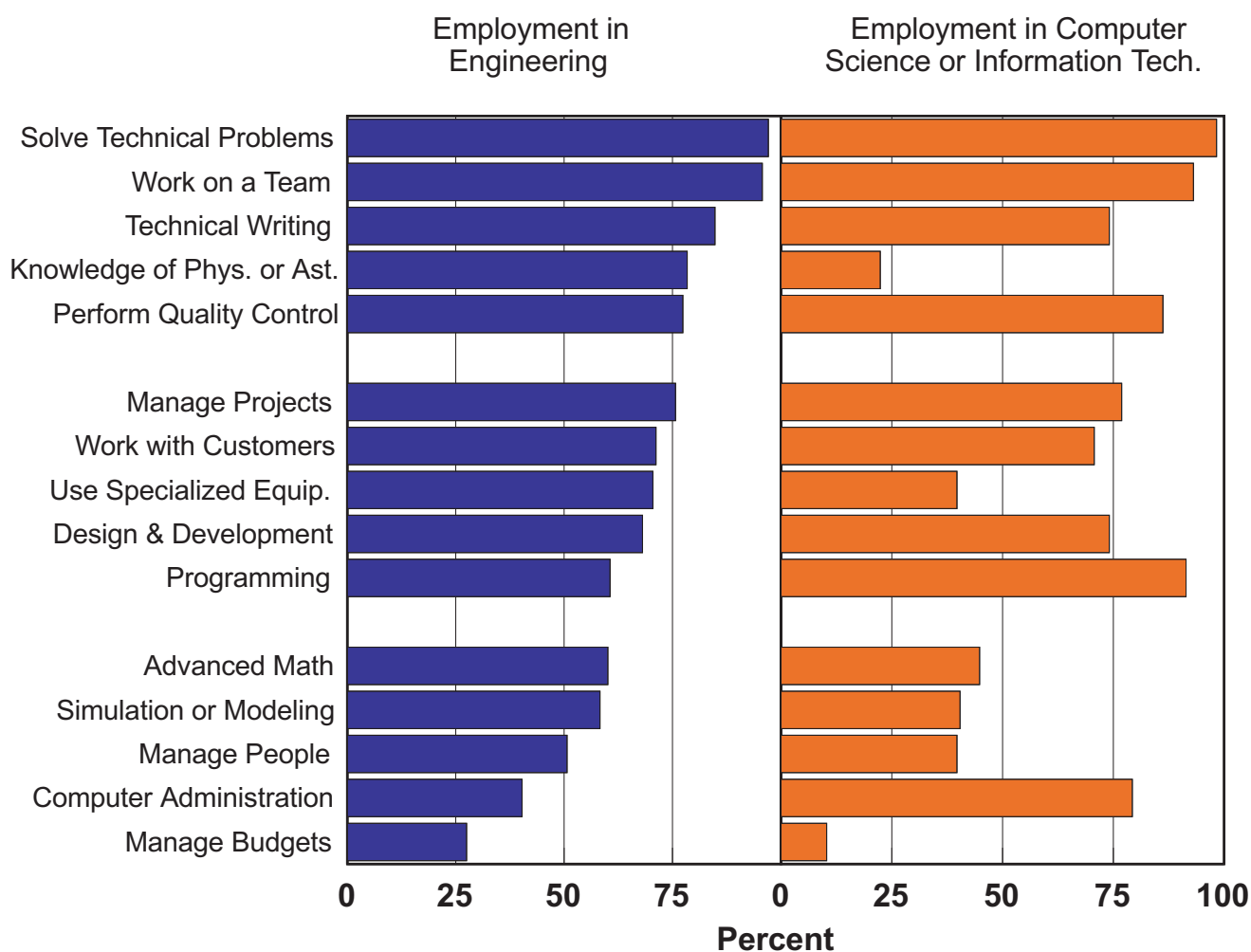
Graduate School

1890 Physics & Astronomy
630 Engineering
320 Other Science & Math
140 Medicine & Law
140 Education
100 Other

Source: AIP Statistical Research Center, Initial Employment Survey Classes of 2007 and 2008.

Skills Used Regularly

Physics Bachelor's in the Private Sector, Class of 2007



Percentages represent the proportion of physics bachelor's who chose "daily", "weekly," or "monthly" on a four-point scale that also included "never or rarely."

Source: AIP Statistical Research Center, Initial Employment Survey Class of 2007.

Typical Stipends

First-Year Physics Graduate Students

PhD Students

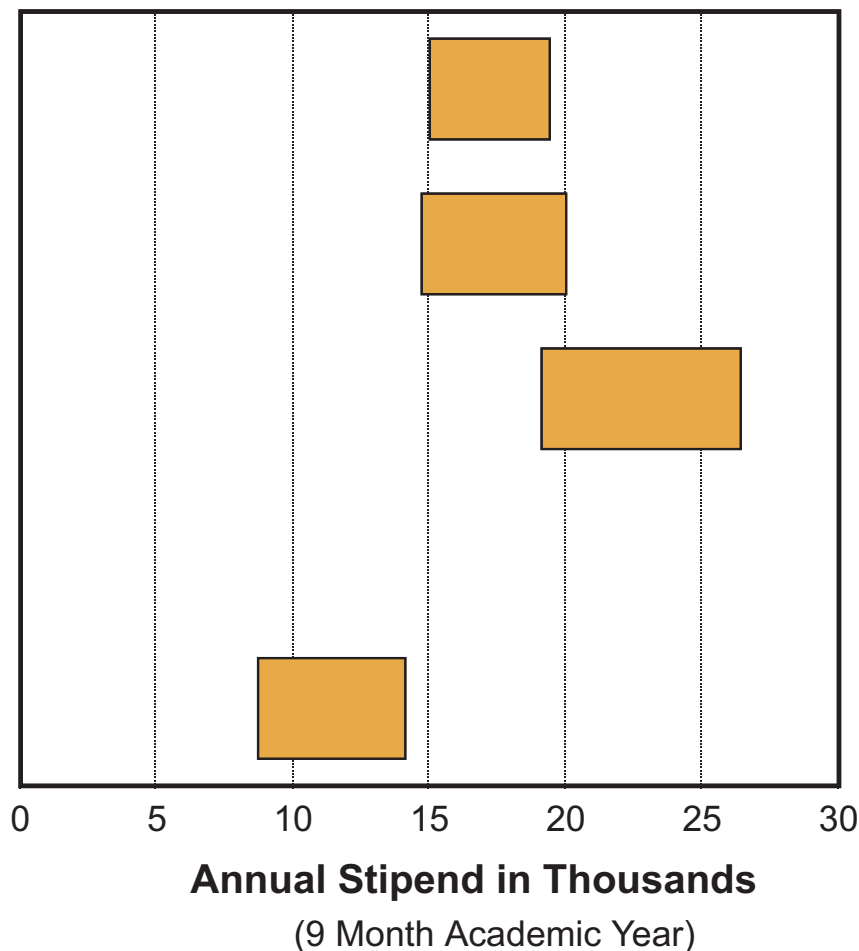
Teaching Assistant

Research Assistant

Fellowship

Students in Master's Departments

Teaching Assistant



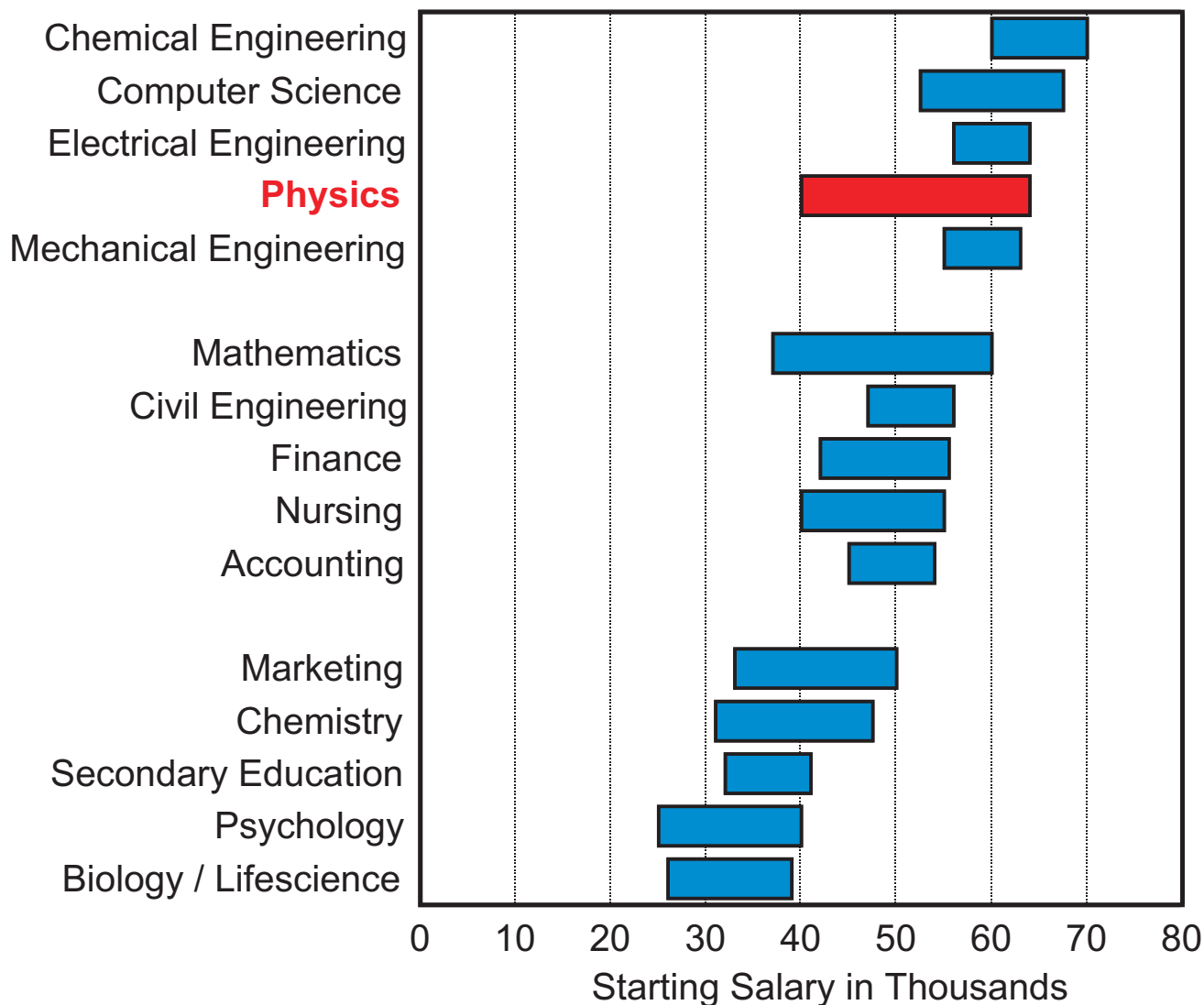
Typical stipends are the middle 50%, i.e., between the 25th and 75th percentiles.

Source: AIP Statistical Research Center, First-year Graduate Student Survey, 2009-10.

What's a Bachelor's Degree Worth?

Typical Salary Offers by Campus Recruiters, AY 2008-09

Bachelor's Field



Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles.

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Physics Masters 1 Year Later

US Citizens Only - Classes of 2005 & 2006



Employment

155 Private Sector
70 College & University
50 High School
35 Government
40 Active Military
25 Other

Graduate School

75 Physics & Astronomy
10 Engineering
40 Other

Data reflect masters who are leaving their current department in a given year.

The outcomes for the 300 non-US citizens who received physics master's degrees was the reverse of what is shown for the US students, with 25% entering the work force and 75% continuing their graduate studies at another department.

Source: AIP Statistical Research Center, Initial Employment Survey.

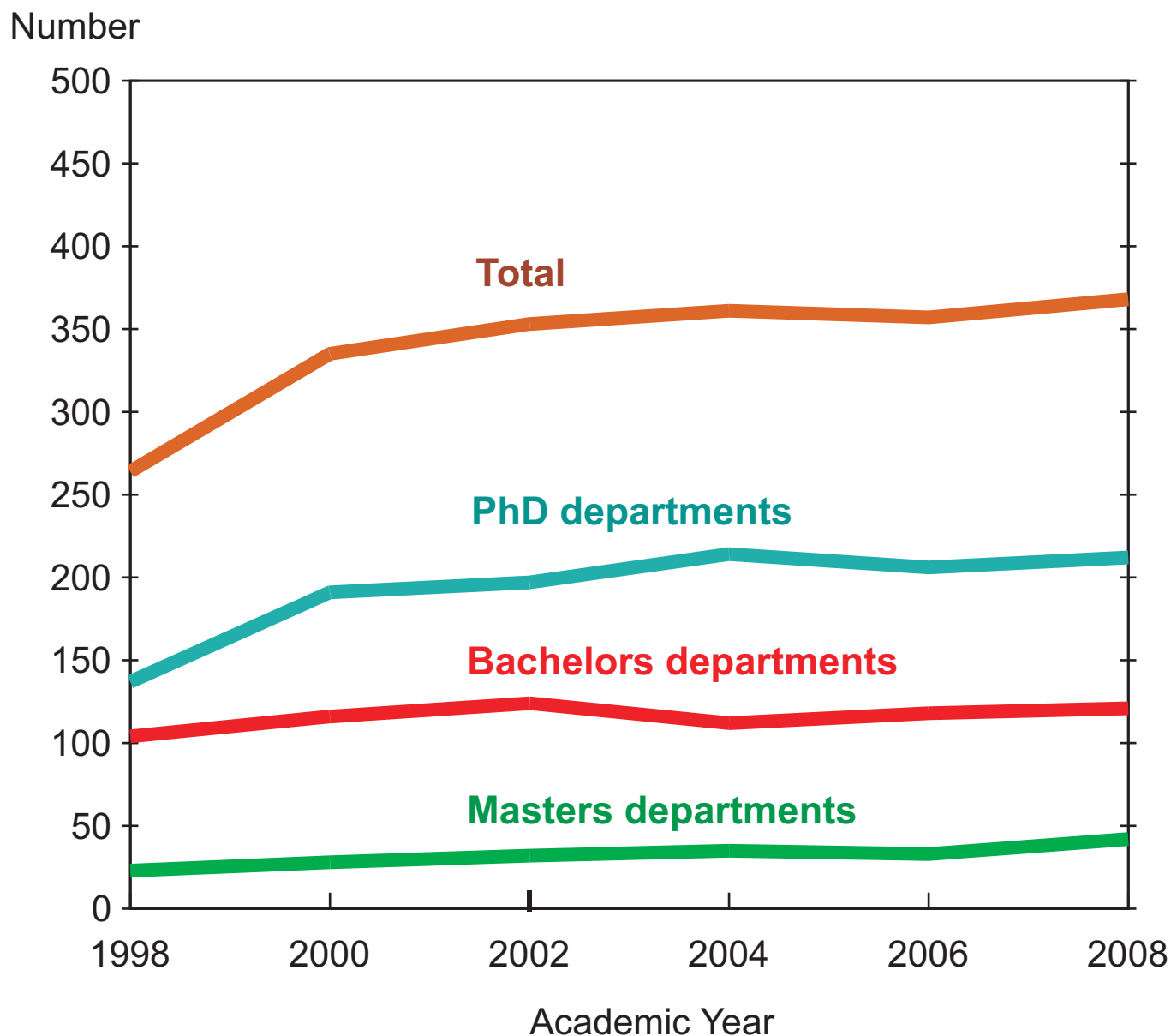
Research Experiences of Physics Undergraduates

Working with a professor on a project	54%
As part of a thesis project	40%
Research Experience for Undergraduates (REU-funded by the National Science Foundation)	23%
At a National Lab	10%
A co-op or internship	7%
None	26%

The total adds to more than 100% as seniors were permitted to indicate more than one type of research experience.

Source: AIP Statistical Research Center, Senior Survey.

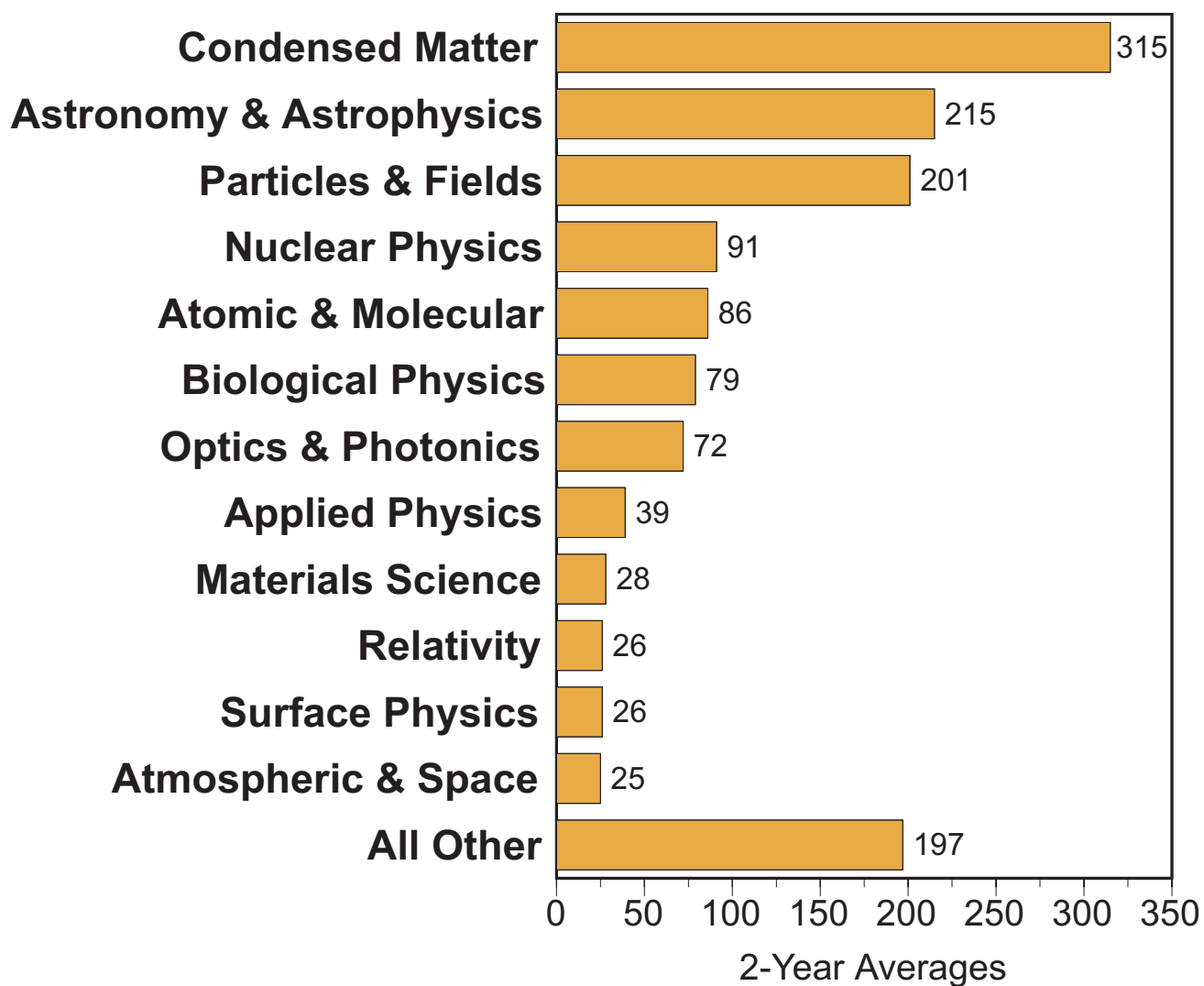
Number of Physics Faculty Hired Tenured and Tenure-Track Positions Only



Source: AIP Statistical Research Center, Academic Workforce Survey.

PhDs by Subfield

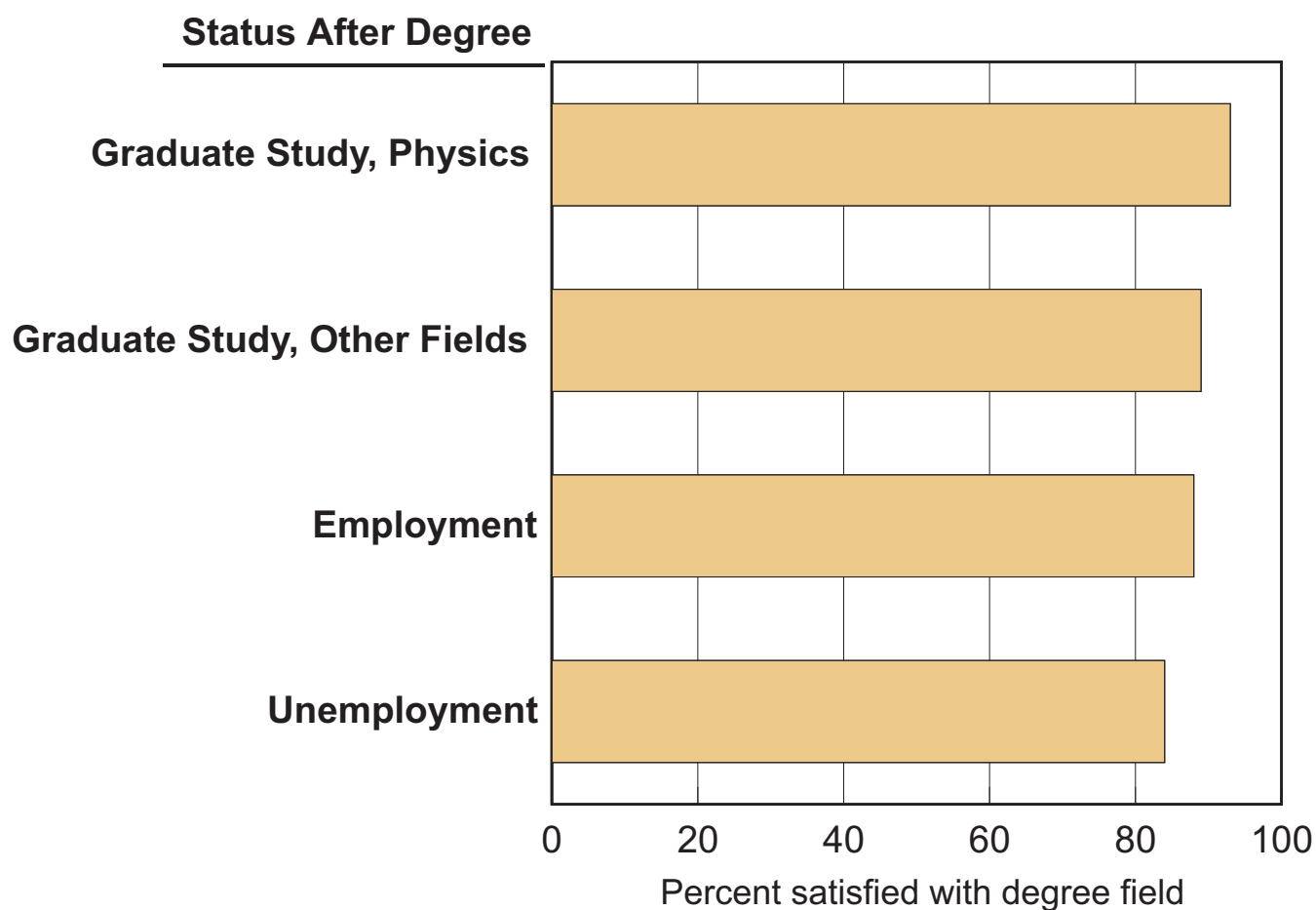
Physics & Astronomy PhDs of 2005 & 2006



Data reflect all doctoral-granting US physics and astronomy departments.

If I Had to Do It Over Again, I Would Still Major in Physics.

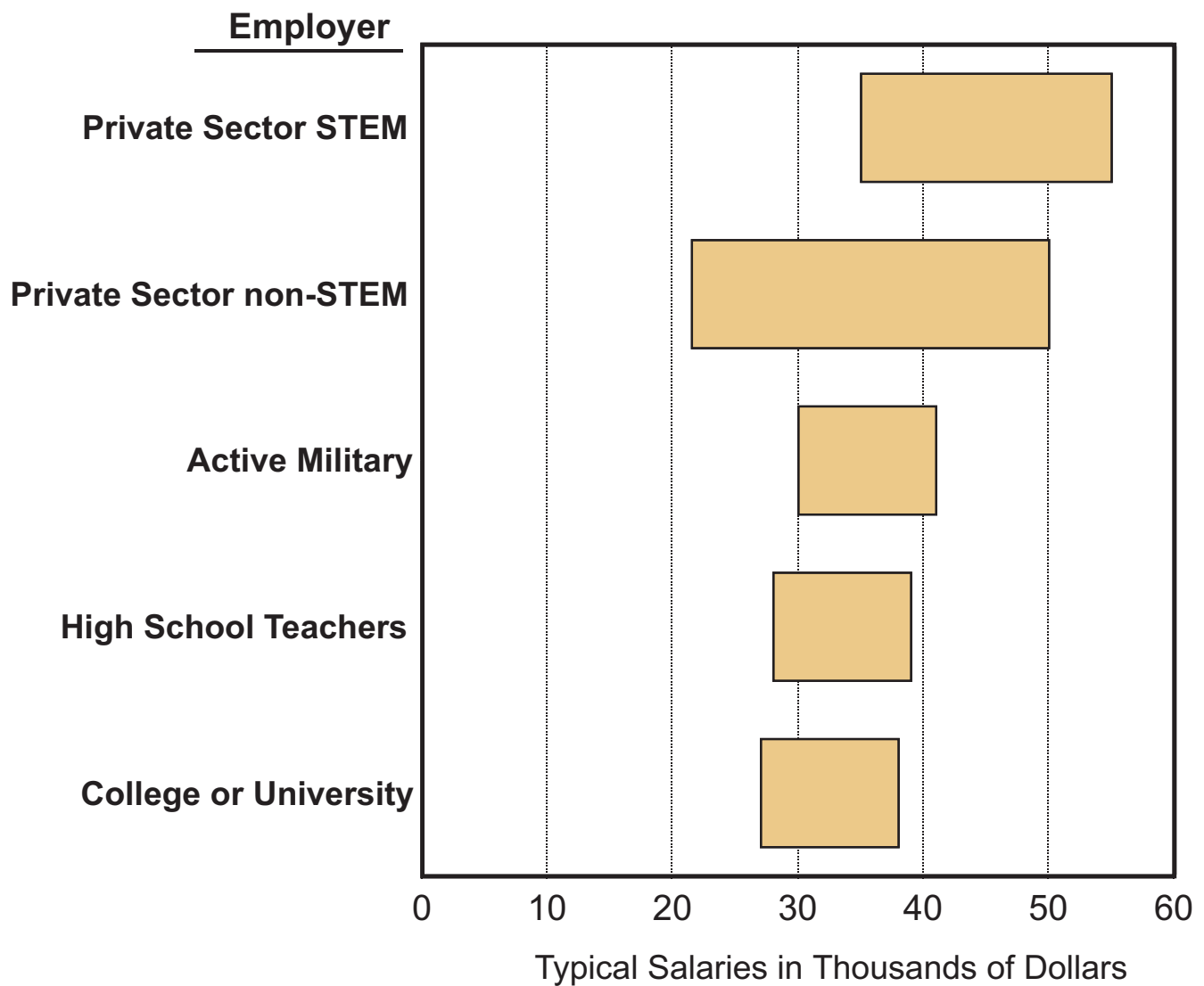
Physics Bachelor's of 2005 & 2006



Percentages represent the two positive responses on a 4-point scale from Strongly Agree to Strongly Disagree.

Bachelor's Starting Salaries

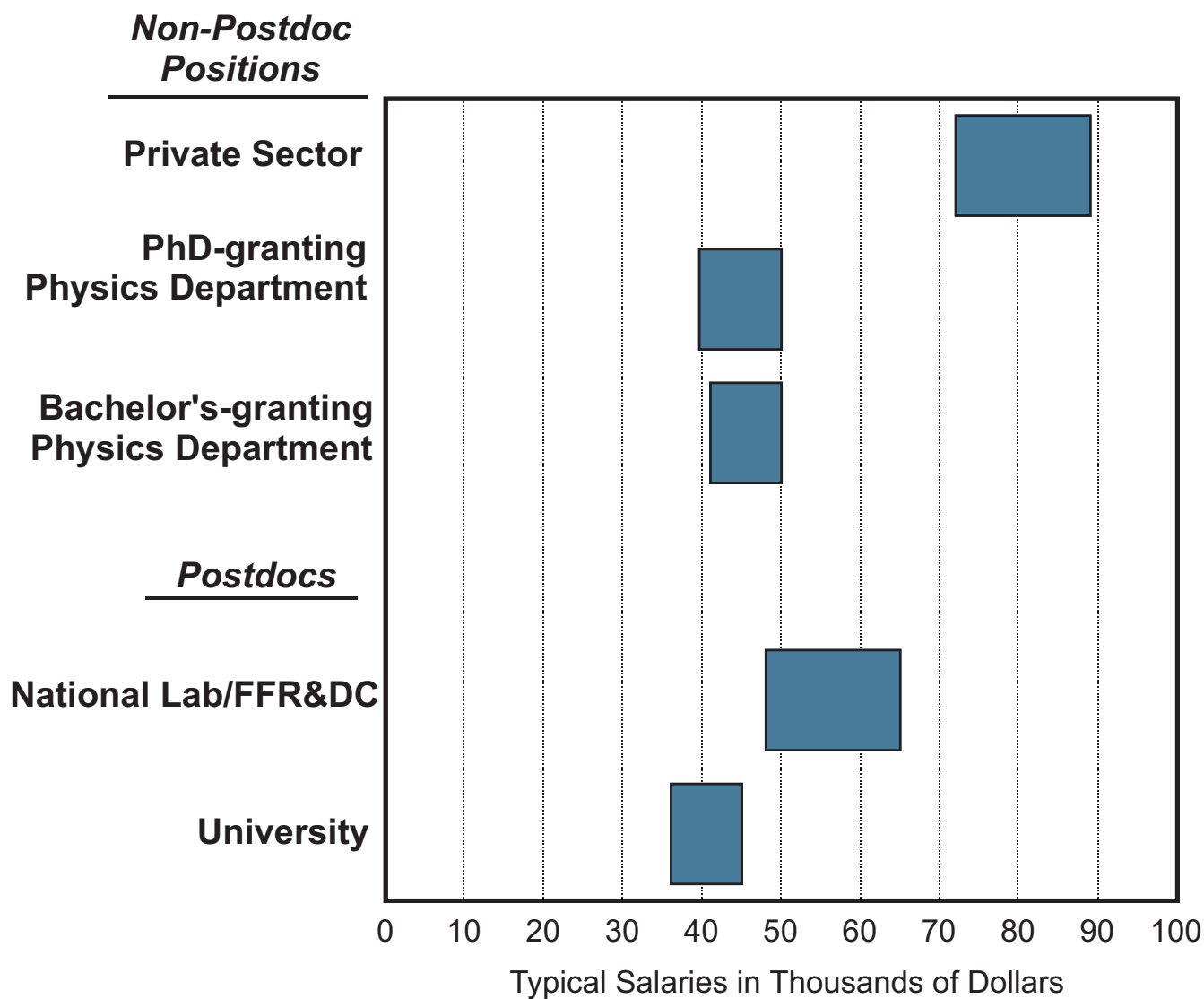
Physics Bachelor's of 2005 & 2006



Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles. STEM refers to positions in Science, Technology, Engineering, and Math.

PhD Starting Salaries

Physics PhDs of 2005 & 2006

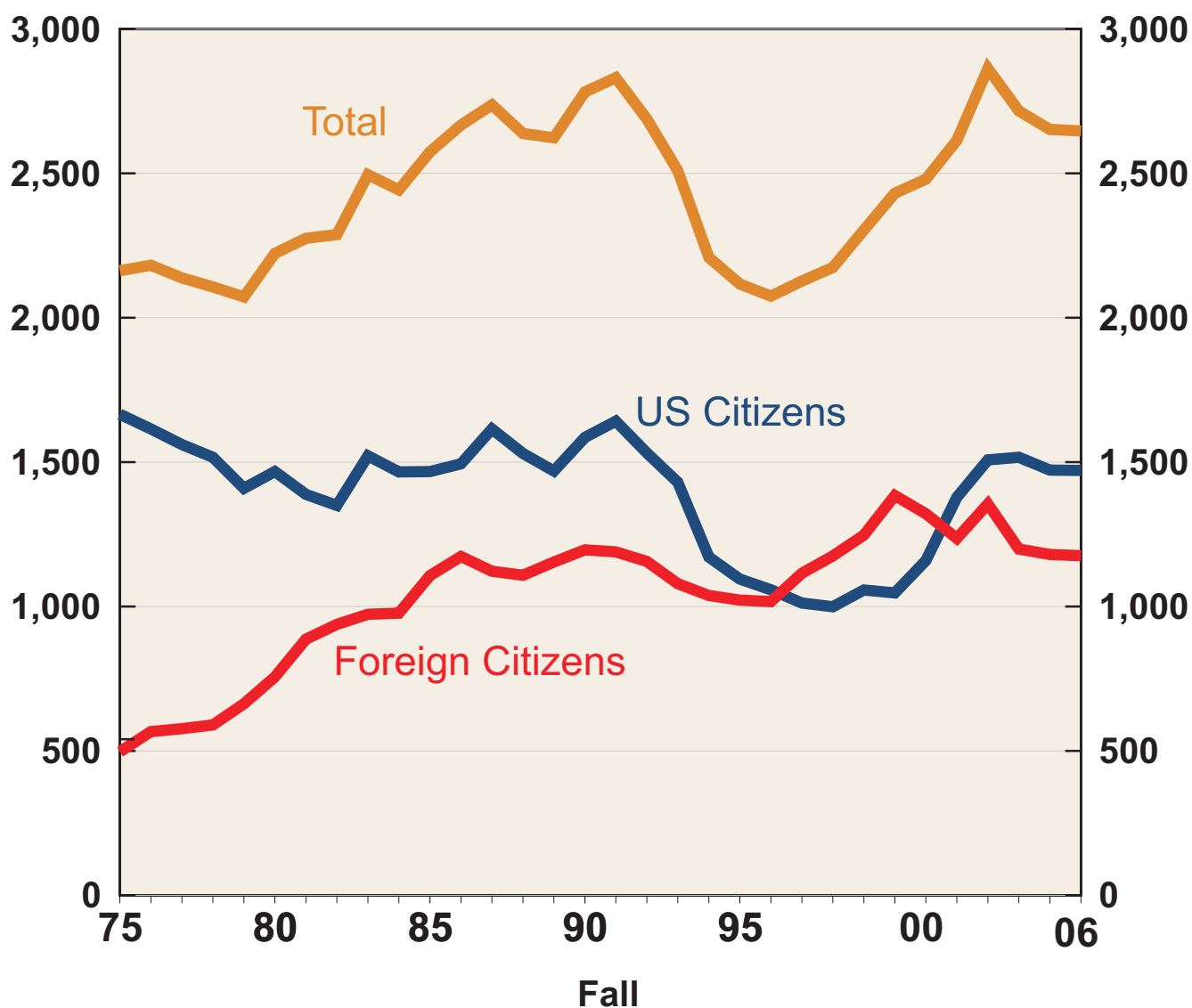


Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles.
FFR&DC: Federally Funded Research and Development Center, e.g. Los Alamos.

First-Year Graduate Student Enrollments

PhD-granting physics departments

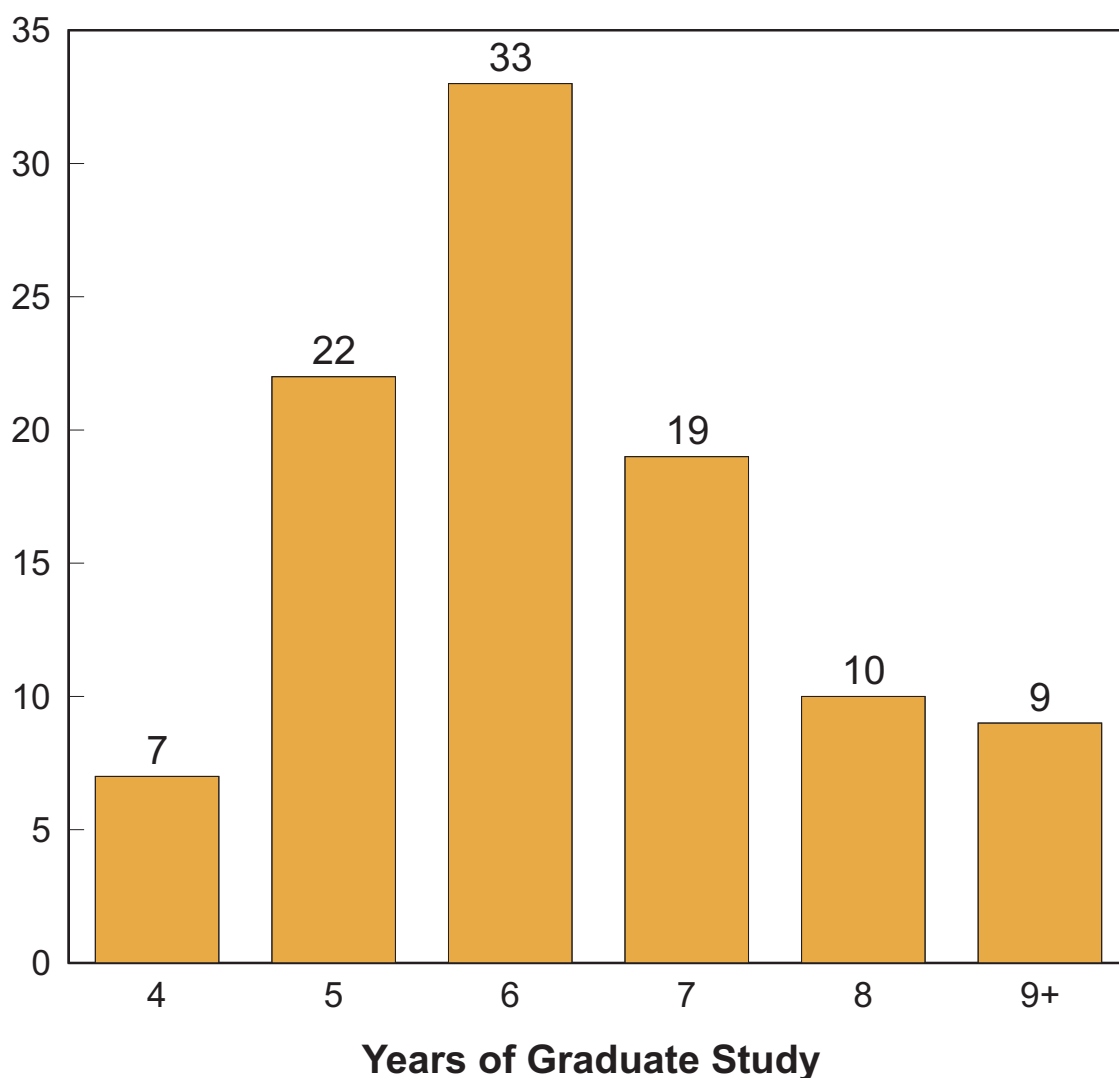
Number



Source: AIP Statistical Research Center, Enrollments and Degrees Survey

Physics PhD How Long Does it Take?

Percent



This graph depicts the number of full-time equivalent years of physics graduate study completed by the PhD class of 2004. US Citizens only.

Source: AIP Statistical Research Center, Initial Employment Survey

Predominant Work Activities

Recent Physics Bachelors

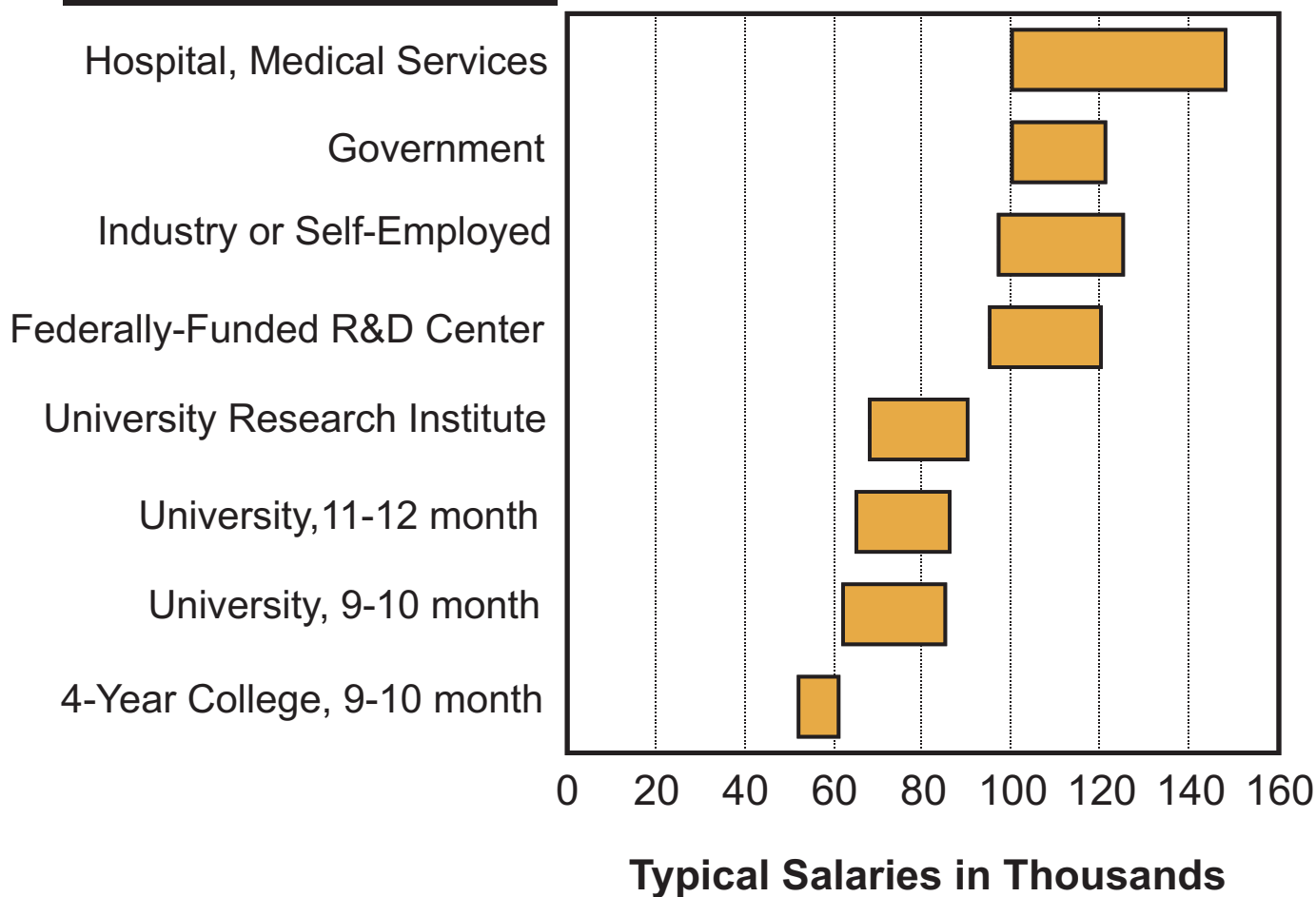
Private Sector STEM	Design & Development Programming, Simulation & Modeling Quality Control
Private Sector Non STEM	Management & Administration Financial & Legal Services Sales & Marketing
Civilian Government	Applied Research Basic Research Design & Development

Predominant means over 50% of the work activities in each of the sectors.
STEM refers to positions in Science, Technology, Engineering and Math.

Source: AIP Follow-up survey of physics bachelor's classes of 2003 & 2004

PhD Salaries 10 Years Later

Place of Employment

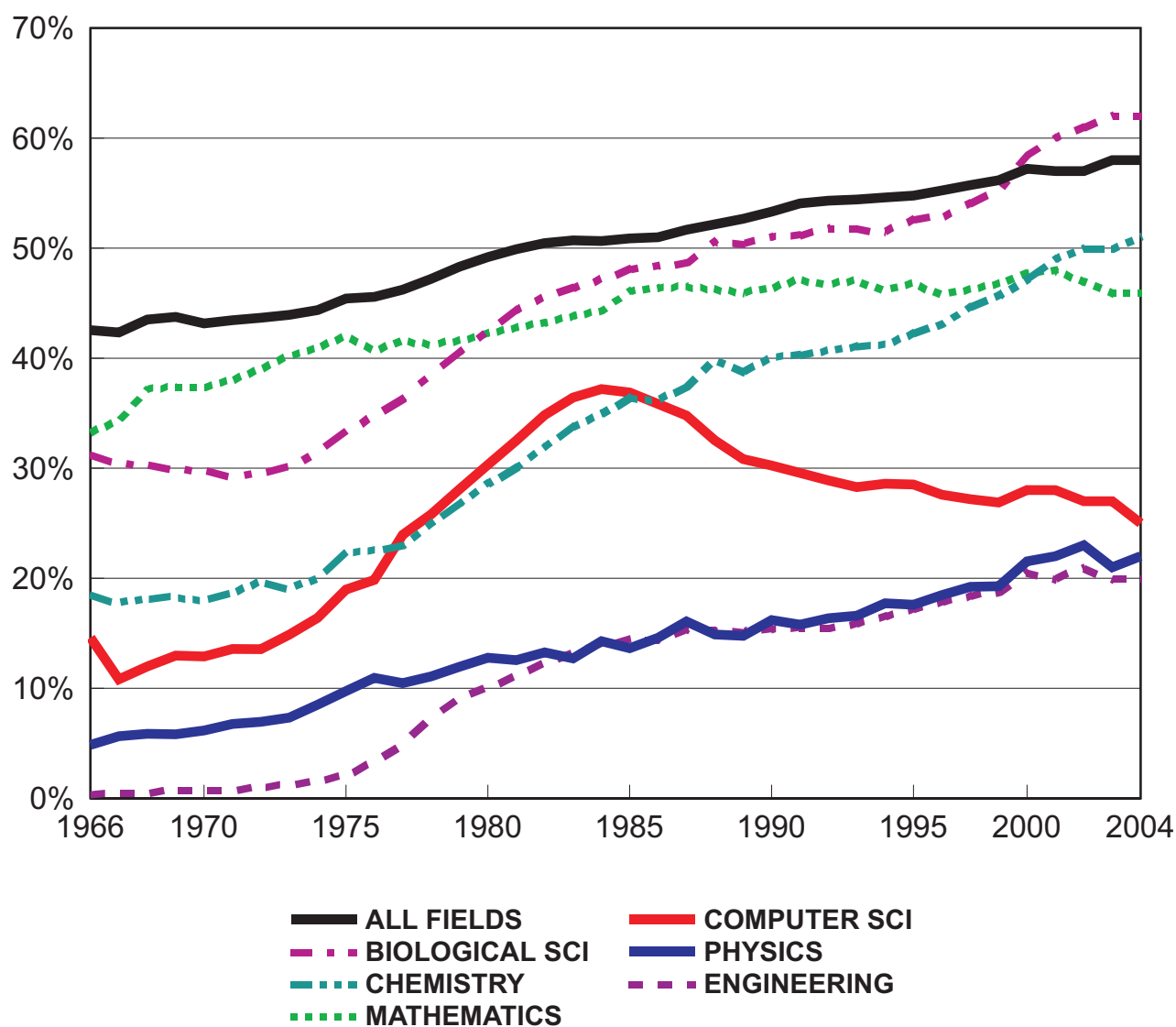


Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles, reported by US resident members of the 10 AIP Member Societies who earned their PhDs 10 to 14 years ago.

Source: AIP Statistical Research Center, 2006 Society Membership Survey

WOMEN IN SELECTED FIELDS

Bachelor's Degrees, 1966-2004



Source: National Center for Education Statistics. Data for Academic Year 1999 were not available. Compiled by AIP Statistical Research Center.

Faculty Salaries, 2006

Typical Range
(in thousands
of dollars)

UNIVERSITY *12 month salary*

Full Professor	103	—	174
Associate Professor	73	—	102
Assistant Professor	61	—	76

UNIVERSITY *9 month salary*

Full Professor	80	—	120
Associate Professor	64	—	85
Assistant Professor	54	—	69

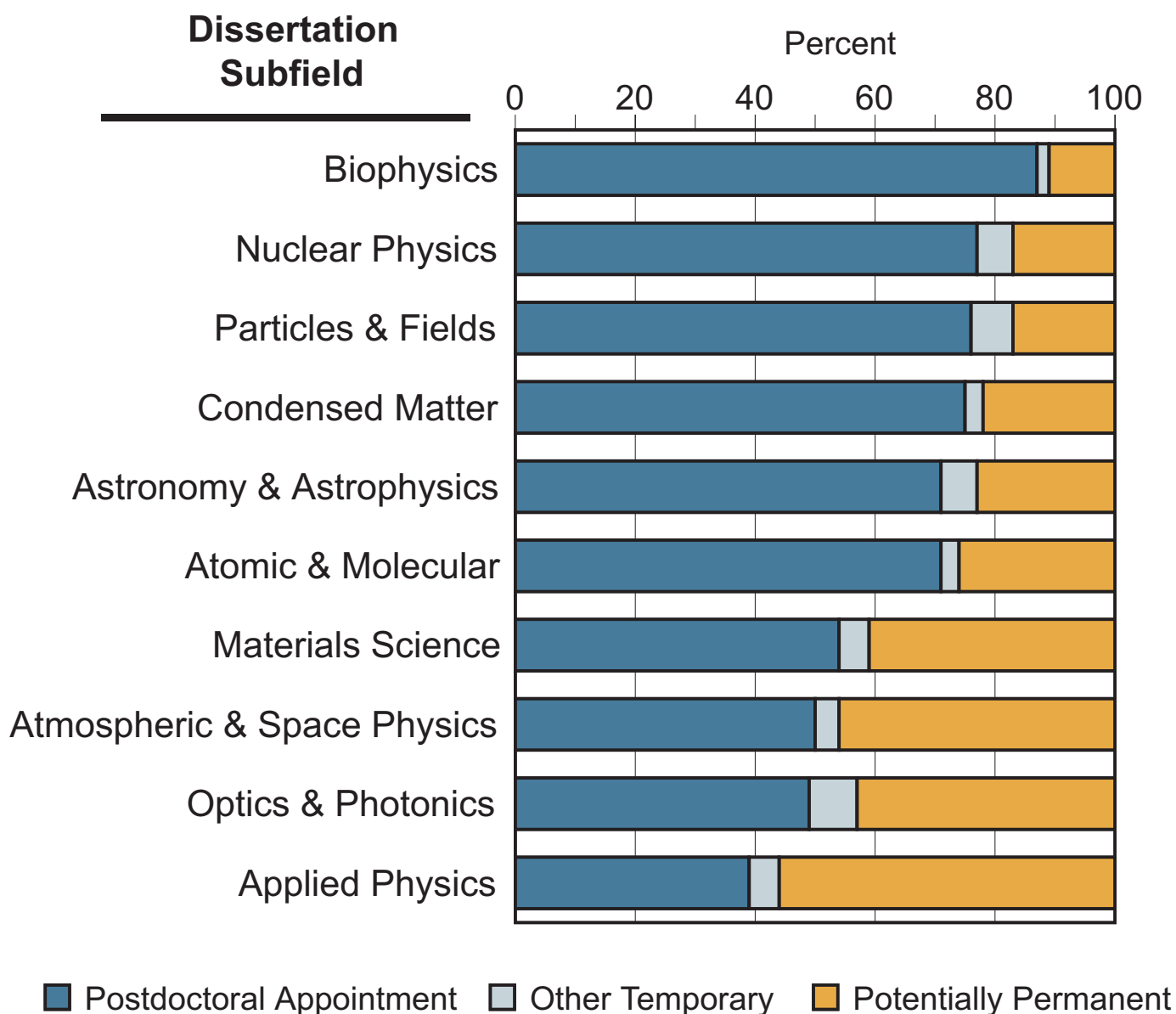
FOUR-YEAR COLLEGE *9 month salary*

Full Professor	65	—	93
Associate Professor	52	—	63
Assistant Professor	45	—	54

Typical salaries are the the middle 50%, i.e. between the 25th and 75th percentiles.

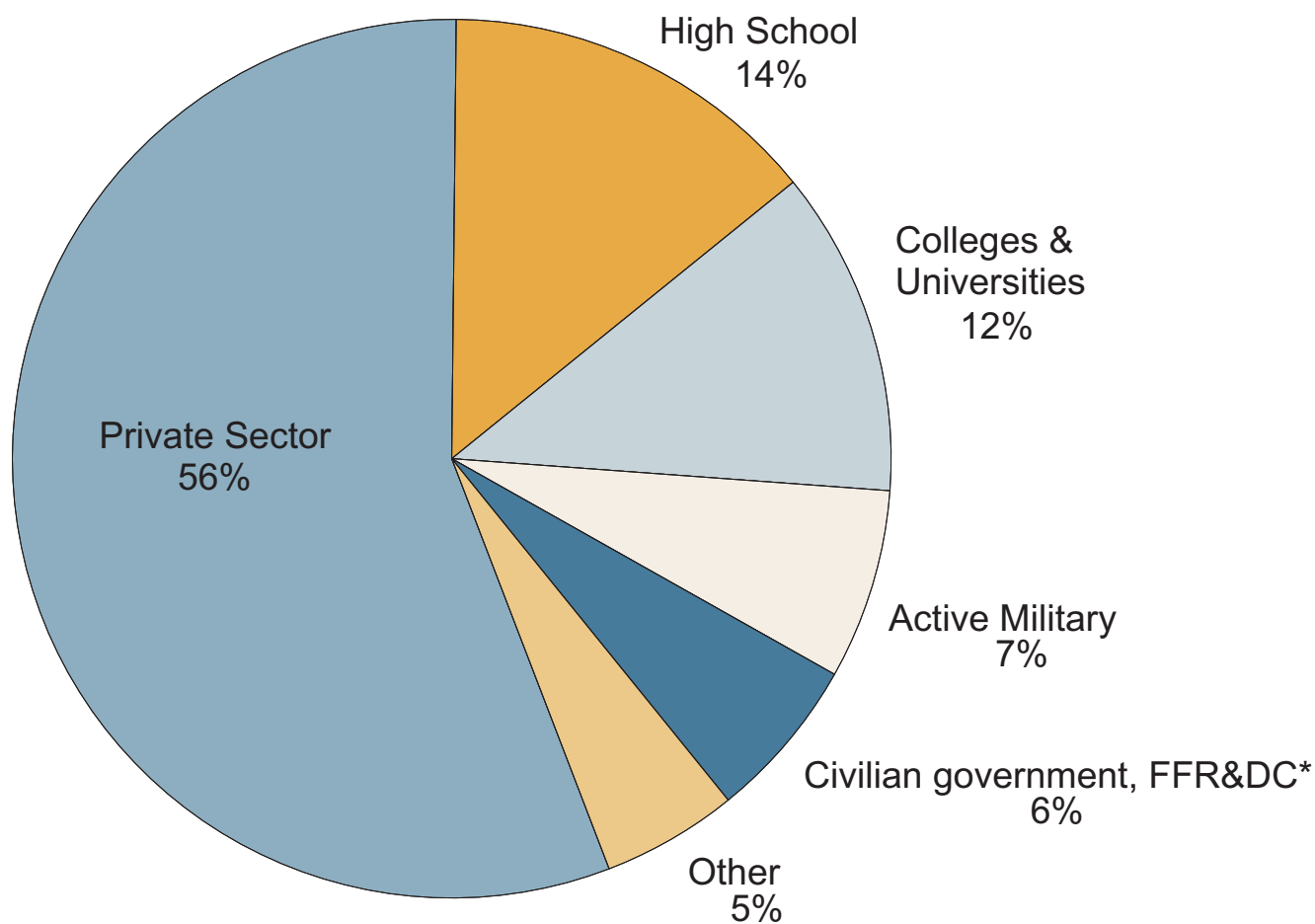
PHD's INITIAL EMPLOYMENT

Physics and Astronomy, classes of 2003 & 2004



WHERE PHYSICS BACHELORS WORK

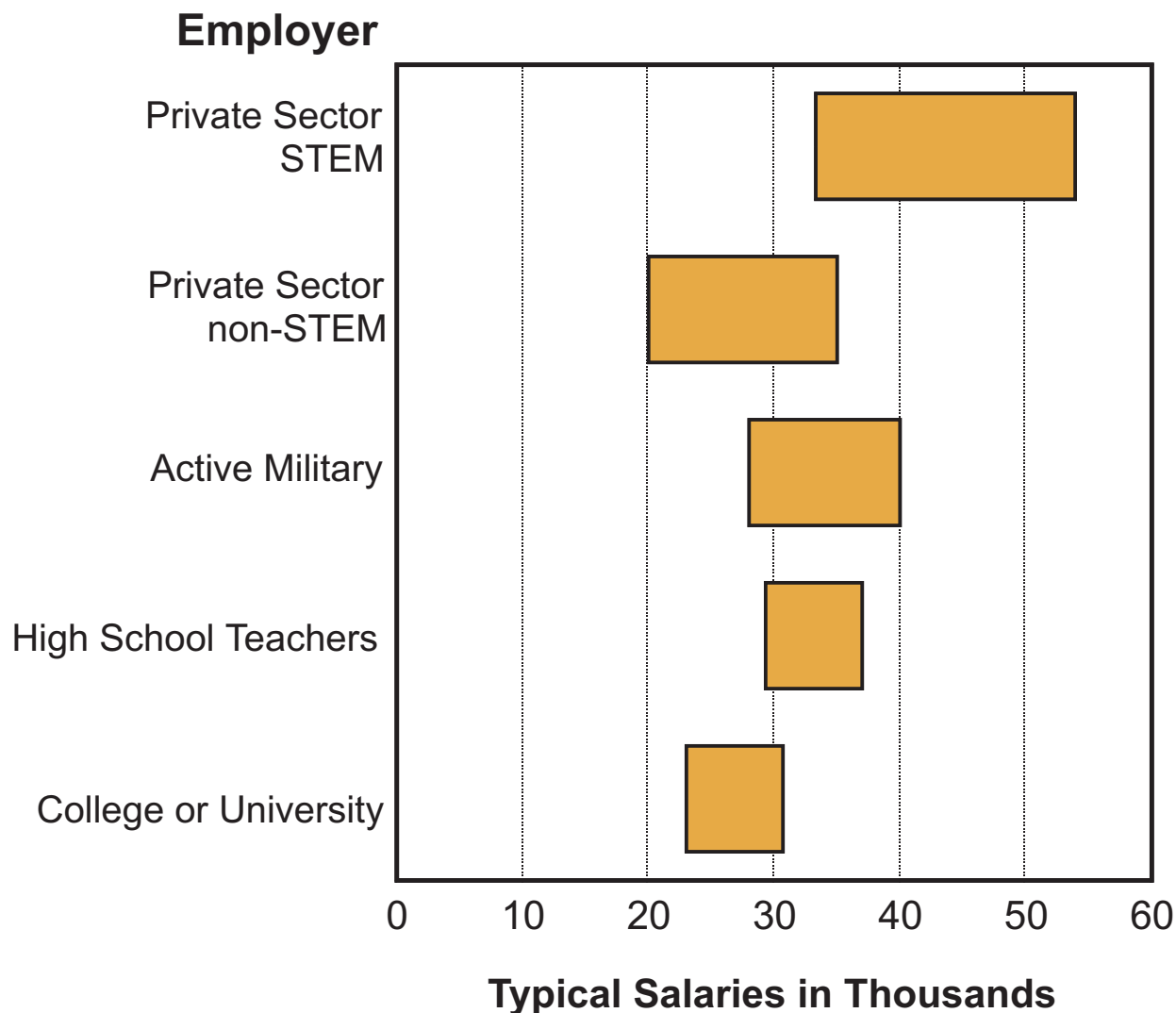
Initial employment, classes of 2003 & 2004



* FFR&DC: Federally Funded Research and Development Center

Typical Starting Salaries

Physics Bachelors Classes of 2003 & 2004

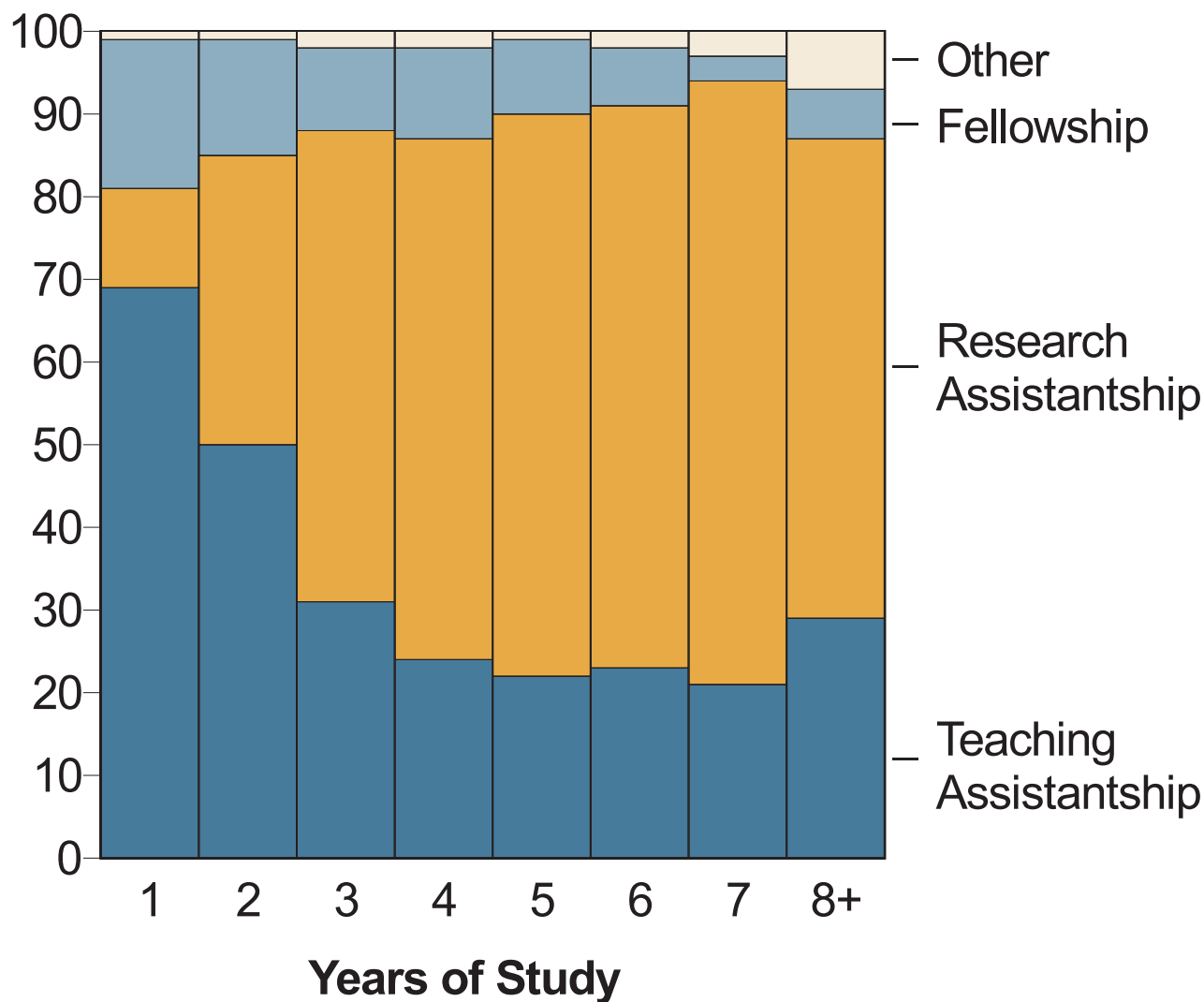


Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles. STEM refers to positions in science, technology, engineering, and math.

Source: AIP Initial Employment Survey

Primary Type of Support for Physics Doctoral Students

Percent



Source: AIP Graduate Student Survey, 2006

Typical Stipends

Full-time Physics Graduate Students

PhD Students

Teaching Assistant

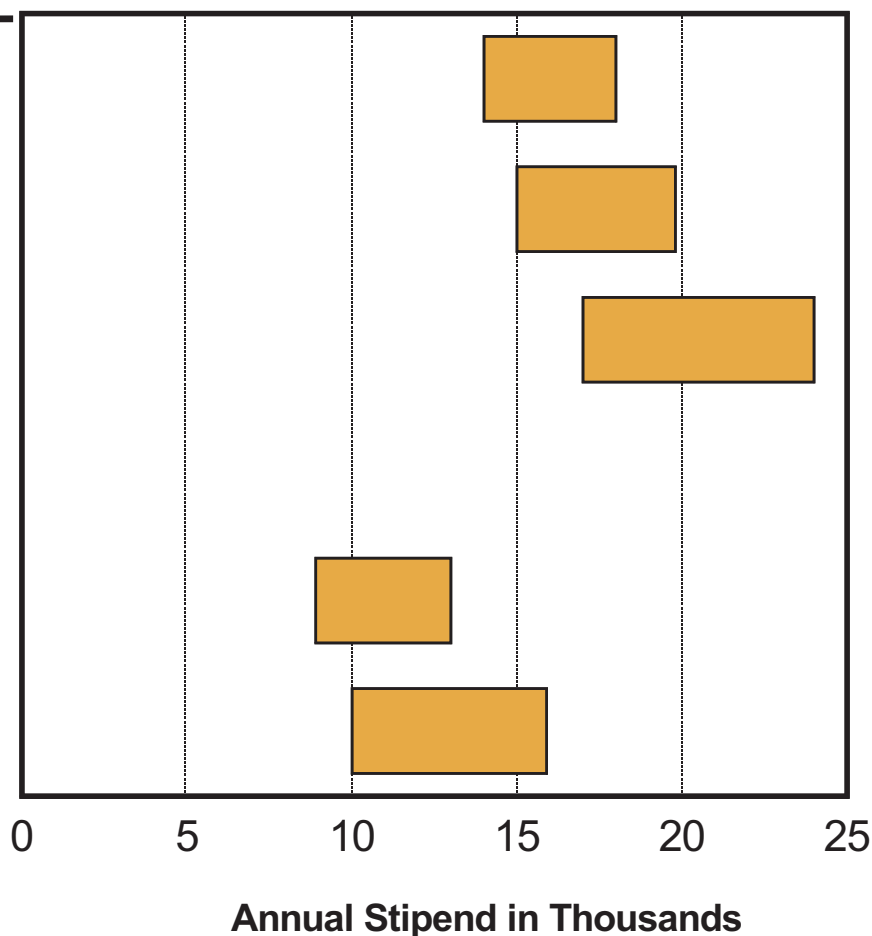
Research Assistant

Fellowship

Students in Master's Departments

Teaching Assistant

Research Assistant

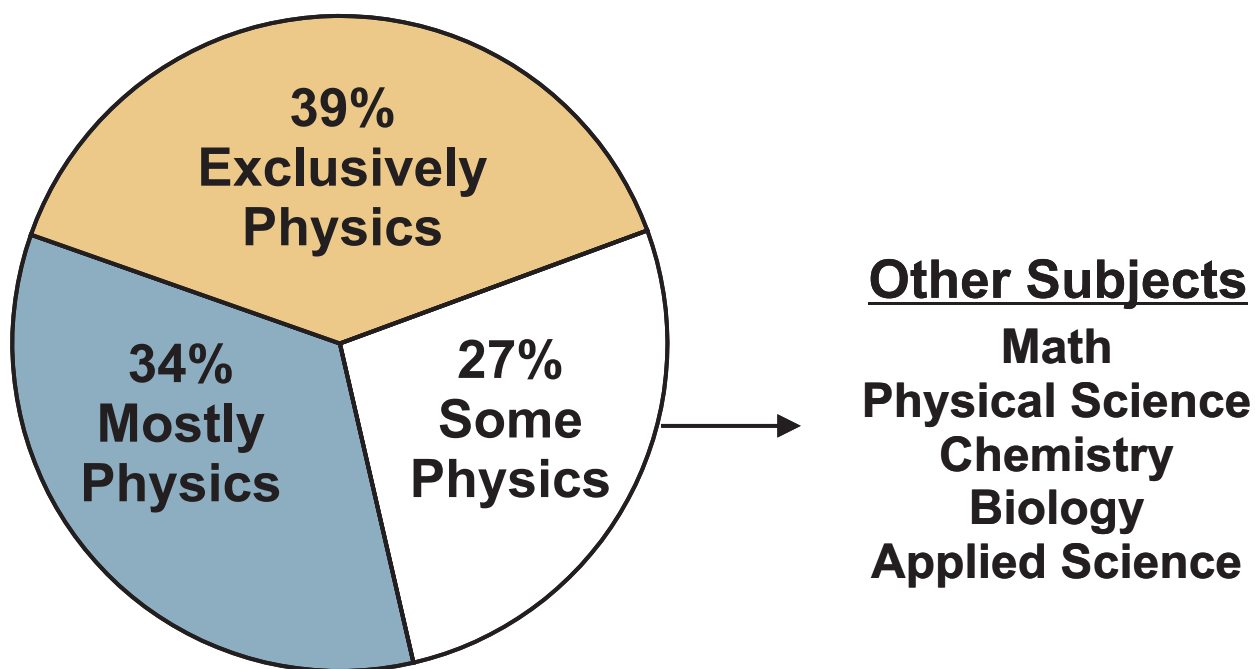


Typical stipends are the middle 50%, i.e. between the 25th and 75th percentiles. 98% of the PhD students and 77% of the master's students received the support types listed above.

Source: AIP Graduate Student Survey, 2006

What Do High School Physics Teachers Teach?

Recently Hired Teachers with Physics Degrees



The average teaching load is 5 classes per term.

Who's Hiring Physics Bachelors?

For a listing of many of the companies that recently hired new physics bachelors in your state, go to

www.aip.org/statistics/whohires

These lists may be useful to job seekers in identifying the variety of companies that hire physics bachelors and to physics departments wishing to strengthen contacts with their local industry.

Research Experiences of Physics Undergraduates

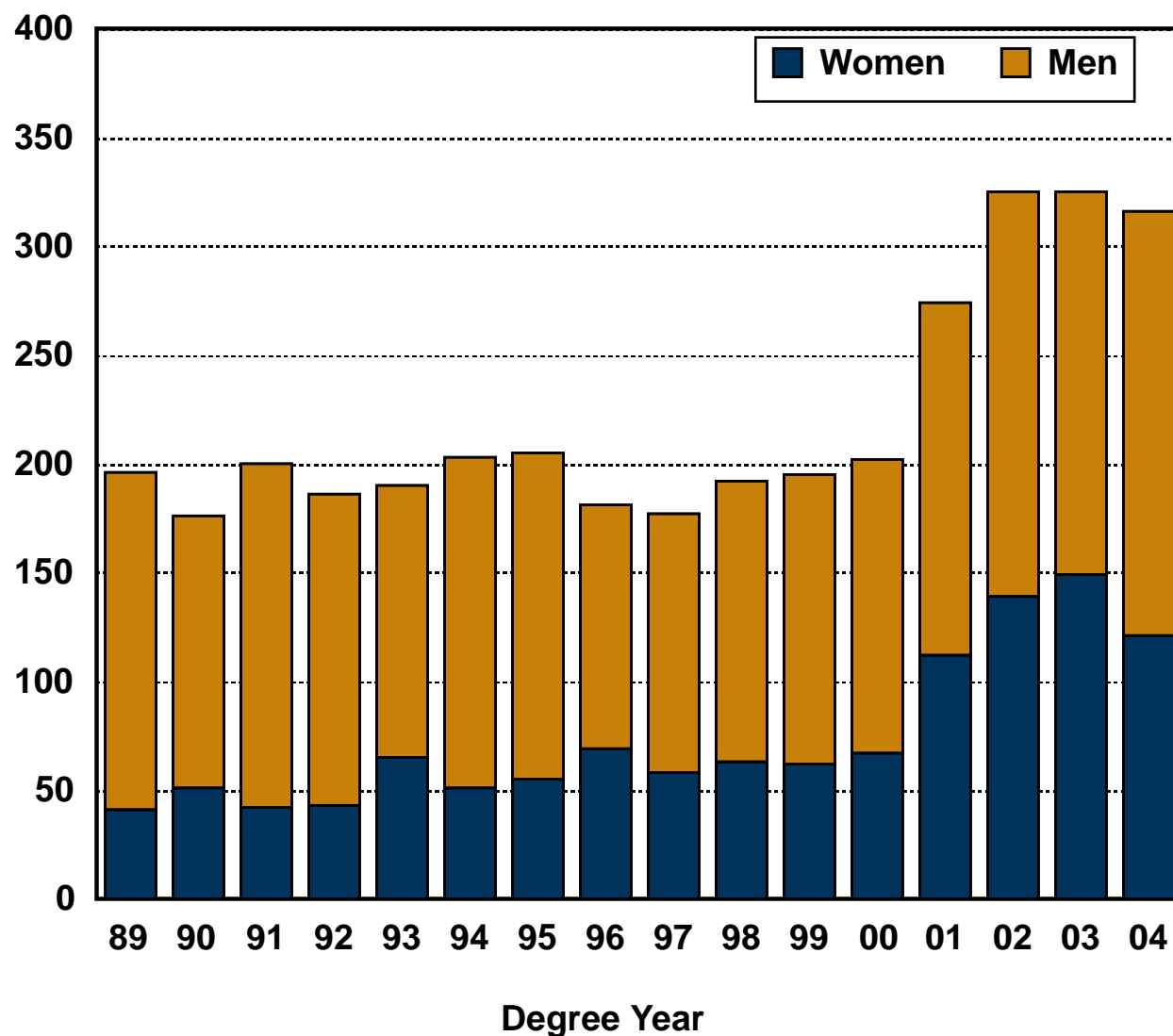
Working with a professor on a project	37%
As part of a thesis project	28%
Research Experience for Undergraduates (REU-Funded by the National Science Foundation)	26%
Non-departmental employment (e.g. Summer job)	25%
While in a co-op or internship	13%
None	29%

The total adds to more than 100% as seniors were permitted to indicate more than one type of research experience.

Source: AIP 2003 Senior Survey

Astronomy Bachelor's Degrees, 1989-2004

Number



Source: AIP Enrollments and Degrees Survey

High School Physics Enrollment Growth by Level of Course



623,000 students took physics in 1990. By 2005, the number had risen to over 1,000,000.

*2005 preliminary data

Source: AIP Nationwide Survey of High School Physics Teachers

Number of Tenured or Tenure-Track Recruitments

by Highest Degree of Recruiting
Physics Department

PhD	284
------------	------------

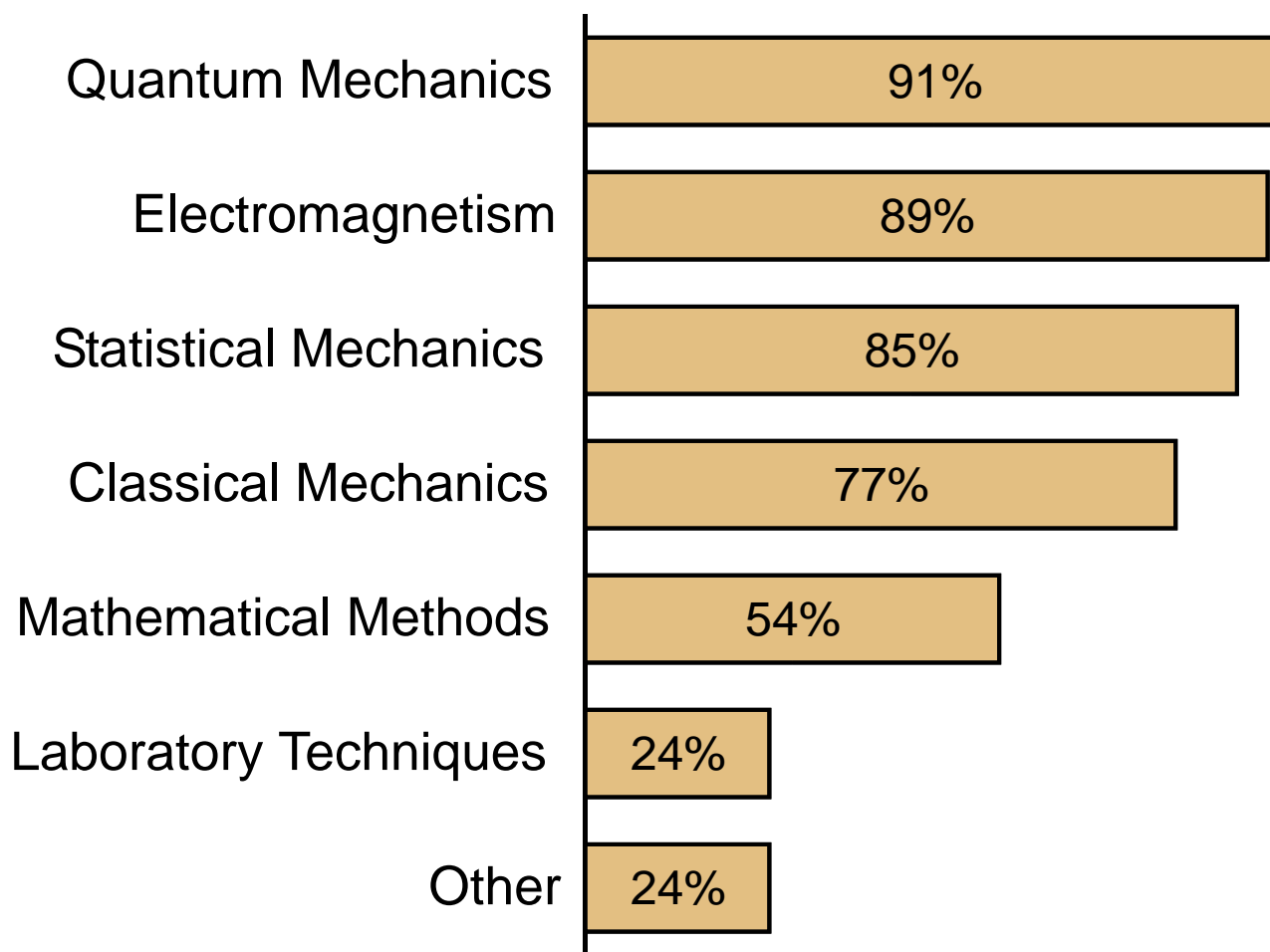
Master's	58
-----------------	-----------

Bachelor's	127
-------------------	------------

Total	469
--------------	------------

Courses Required for a Physics PhD

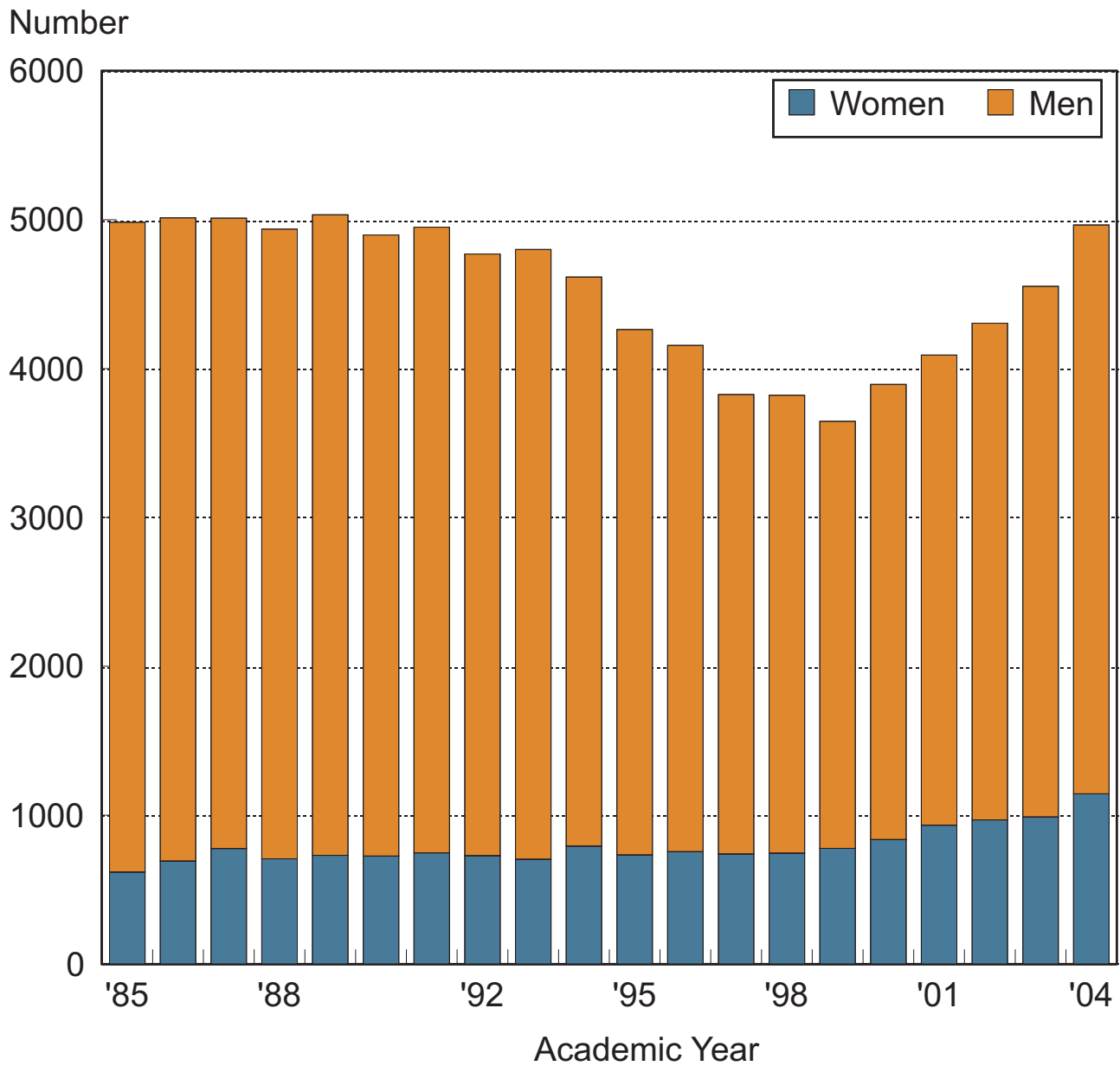
Percent of Departments



“Other” courses include: Advanced Topics, Astronomy, Computational Physics, Elementary Particle Physics, Introductory Astrophysics, and Modern Physics.

Source: AAPT/APS Doctoral Education Survey, 2005. Compiled by AIP Statistical Research Center

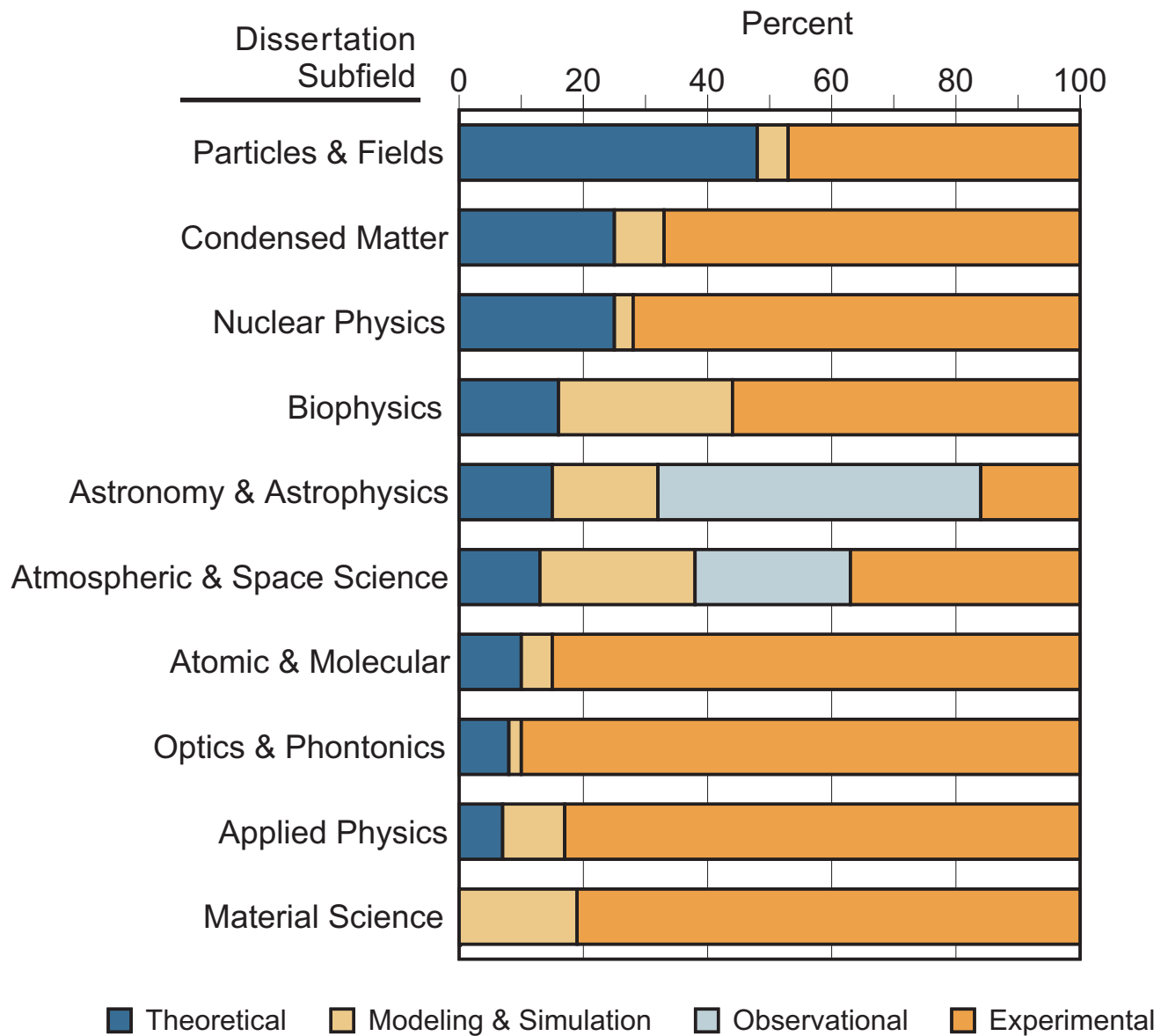
Physics Bachelor's Degrees 1985 - 2004



Source: AIP Enrollments and Degrees Survey.

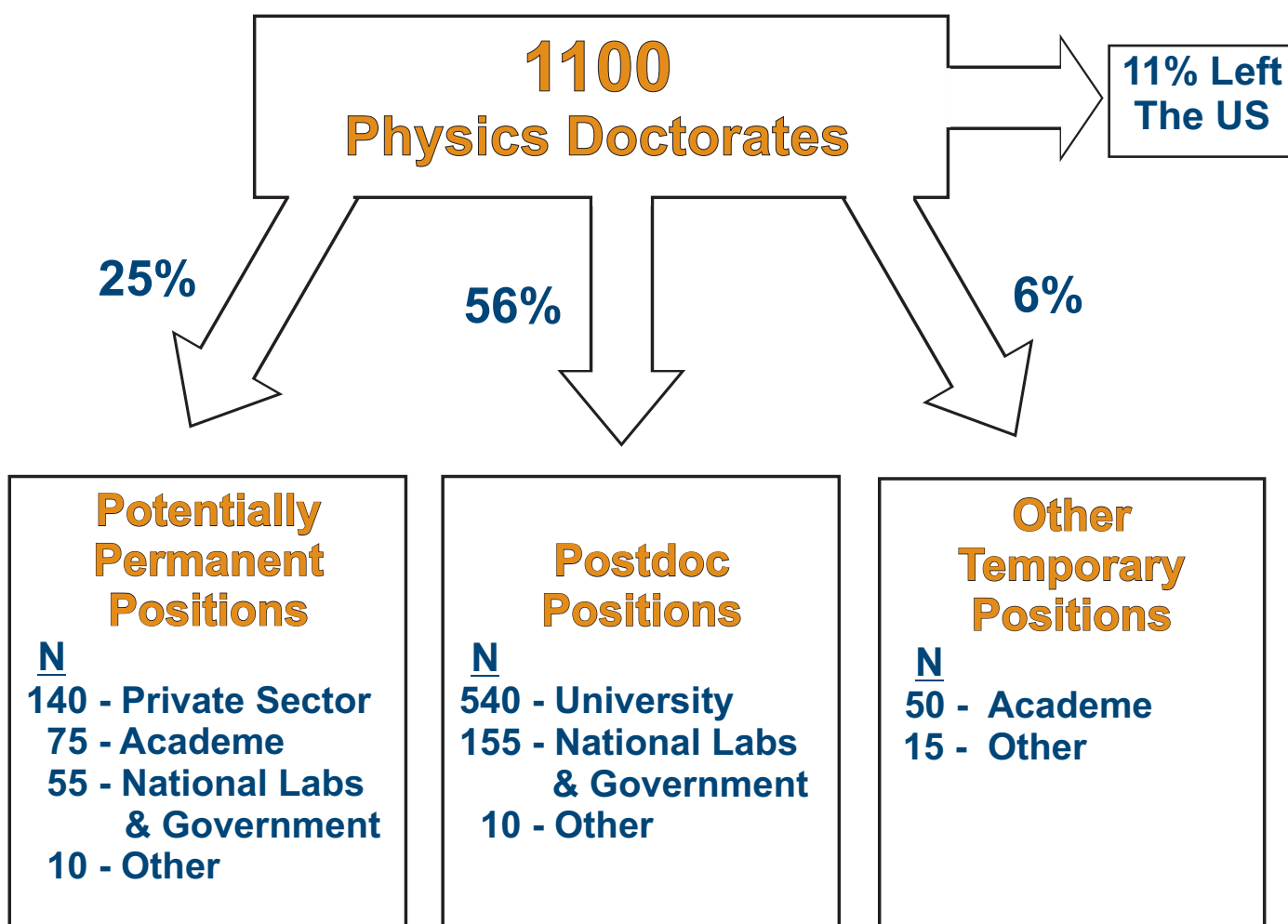
Type of Dissertation Research

Physics and Astronomy PhD Classes of 2002 & 2003



Source: AIP Initial Employment Survey.

Physics PhDs 1 Year Later

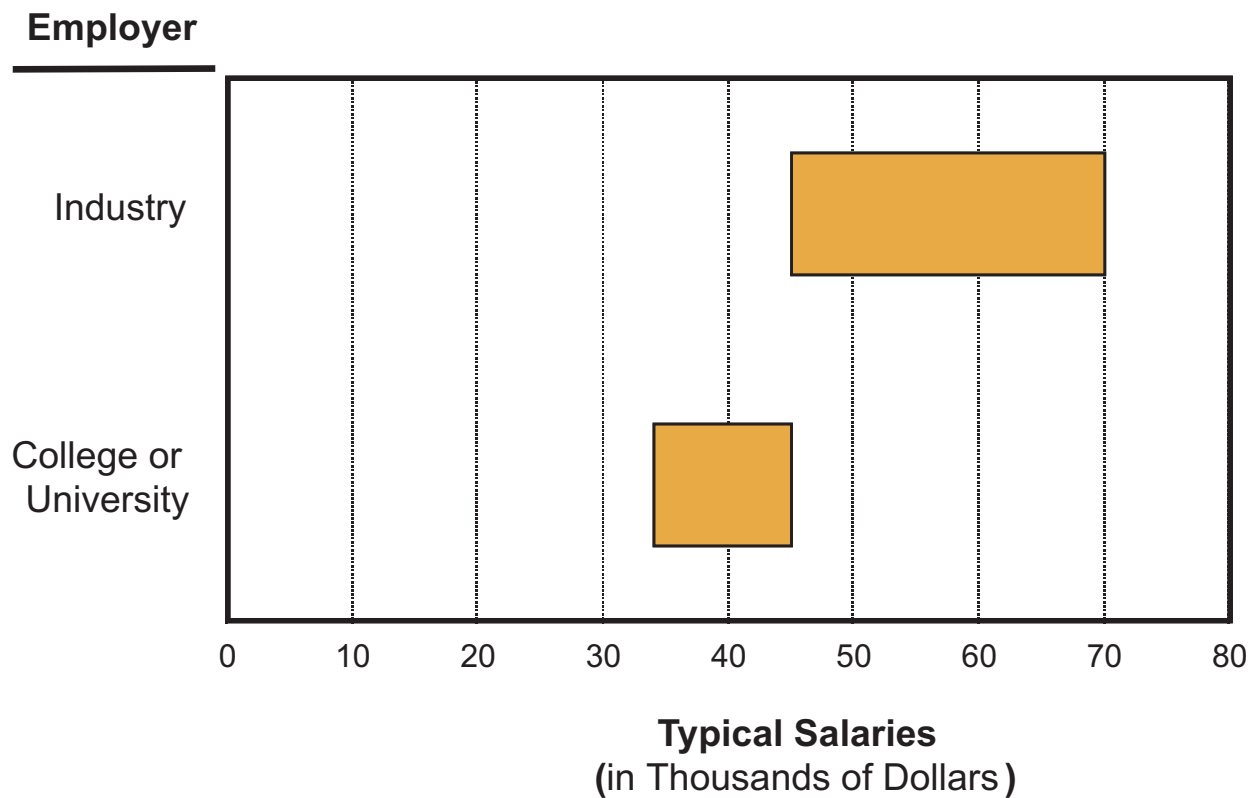


2% of the PhDs were unemployed the winter after they received their degree.
Academe includes universities, 4-year and 2-year colleges.

Source: AIP Initial Employment Survey - Classes of 2002 and 2003.

Masters Starting Salaries

Physics Masters Classes of 2002 & 2003



Typical salaries are the middle 50%, i.e., between the 25th and 75th percentiles.

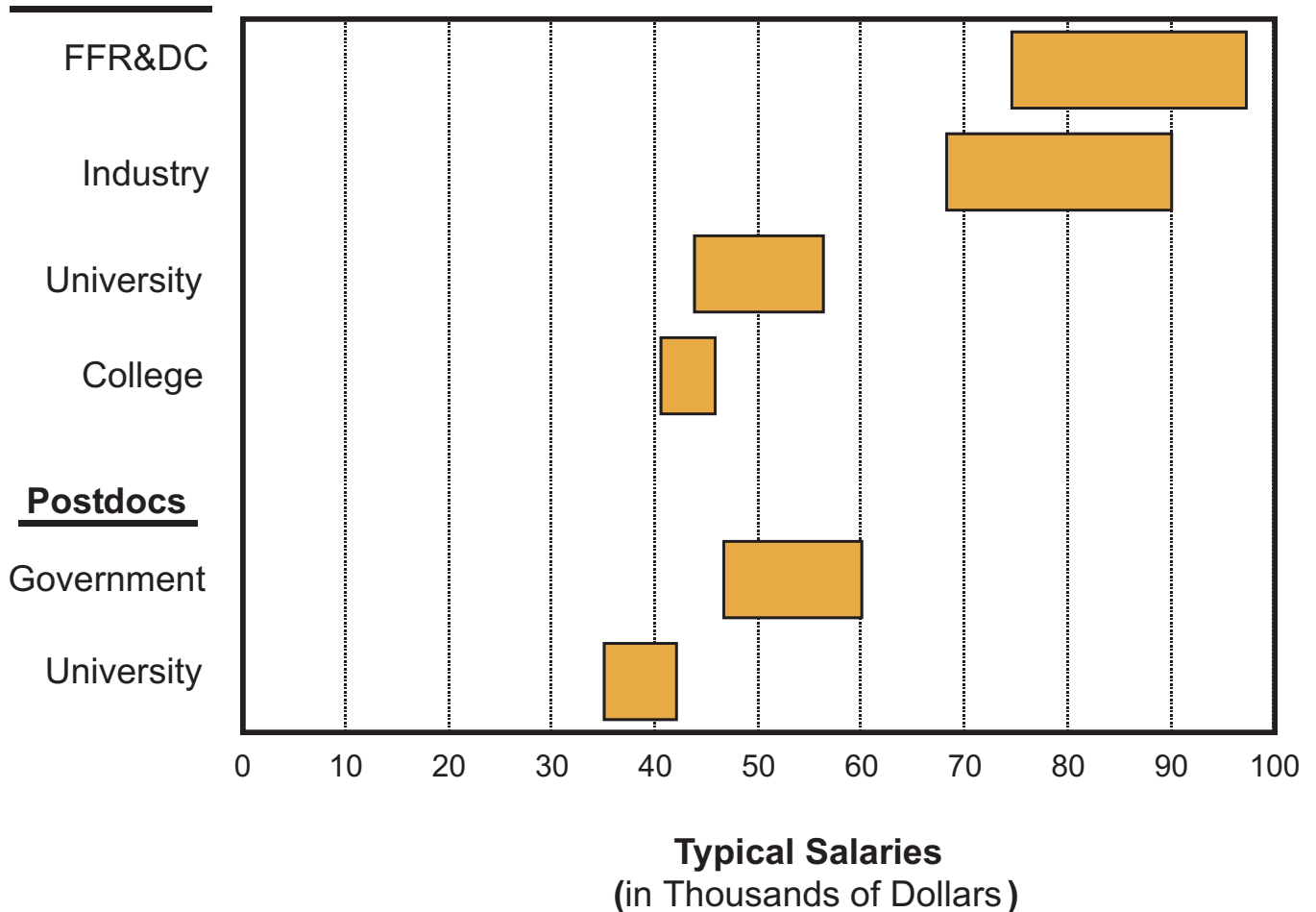
There were too few respondents in the categories of High School, Active Military, and Civilian Government to accurately report salaries.

Source: Initial Employment Survey.

PhD Starting Salaries

Physics PhD Classes of 2002 & 2003

**Potentially
Permanent**



Typical salaries are the middle 50%, i.e., between the 25th and 75th percentiles.

FFR&DC: Federally Funded Research and Development Center, e.g. Los Alamos.

Source: Initial Employment Survey.

Physics Masters 1 Year Later

(US Citizens Only)

400 Masters Degrees

70%

30%

Employment

115 Private Sector
55 College & University
40 High School
35 Government
20 Active Military
15 Other

Graduate School

80 Physics & Astronomy*
20 Engineering
20 Other

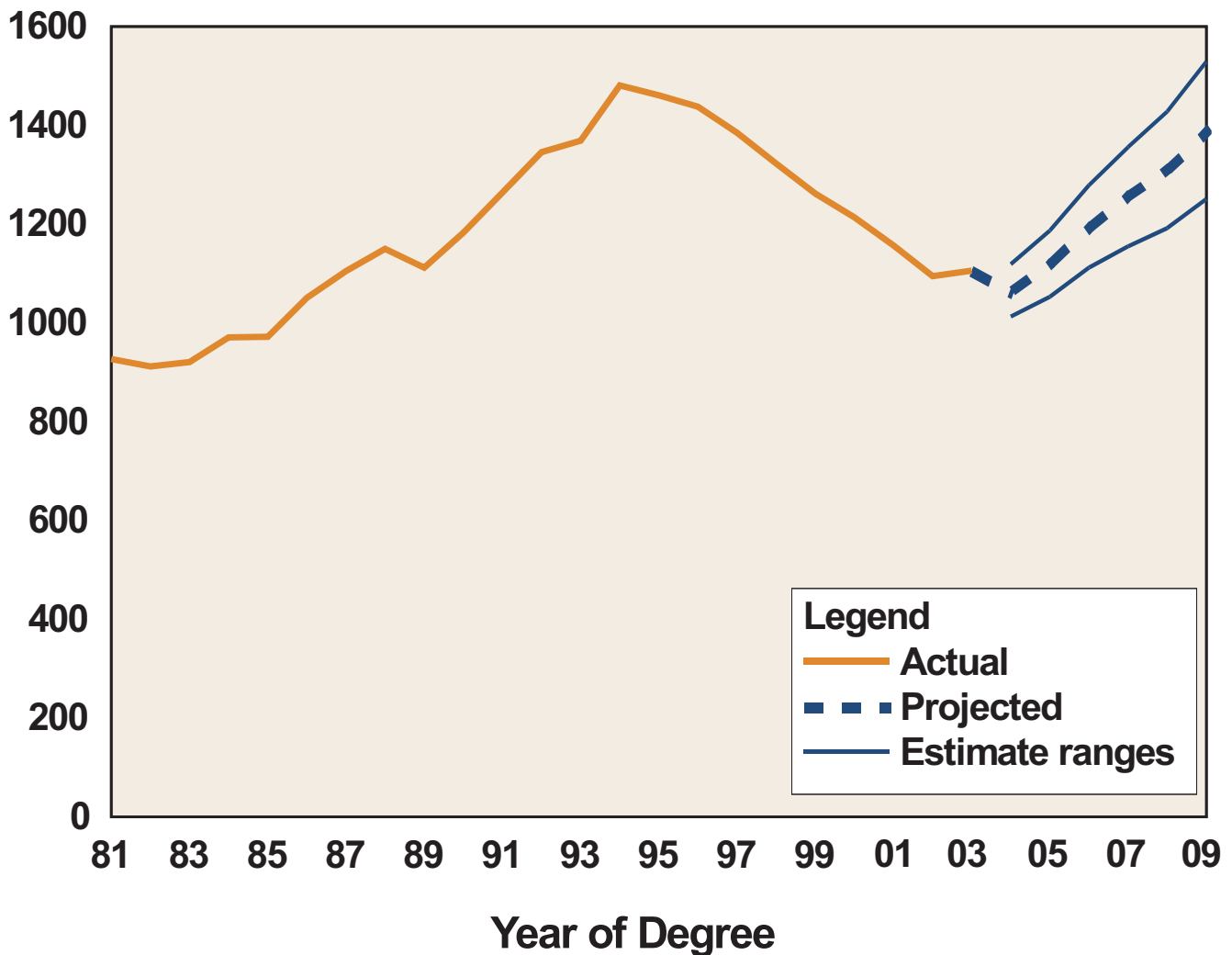
Data reflect masters who are leaving their current department.

Source: Initial Employment Survey - Classes of 2002 and 2003.

Number of physics PhDs awarded

with projections for 2004 through 2009.

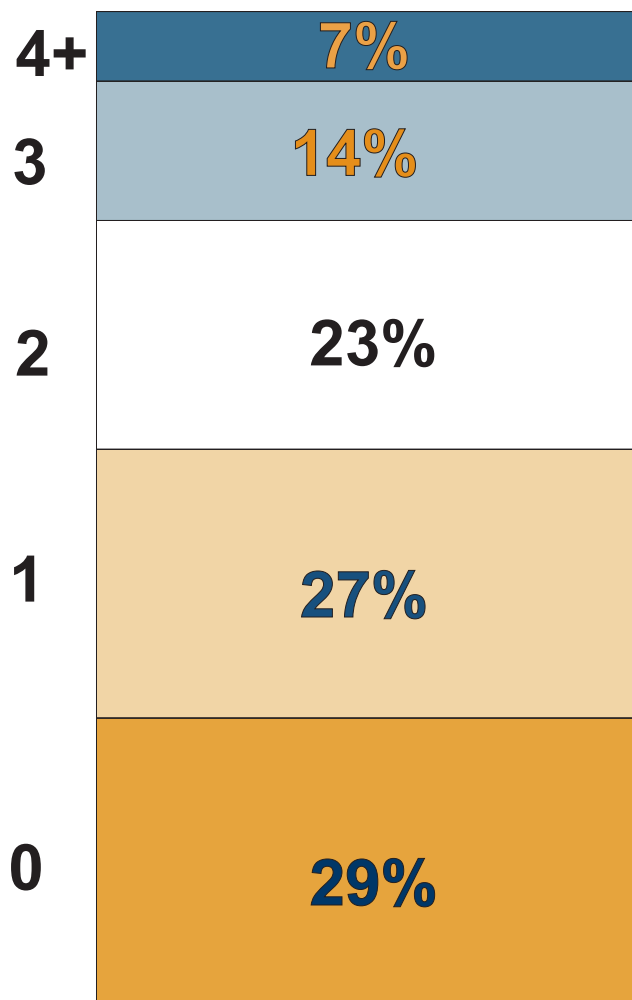
Number of PhDs



Source: Enrollments and Degrees Survey.

How Many Different Projects?

Number of Research Projects in which
Physics Undergraduates Participated:



Source: Survey of Physics Seniors 2003.

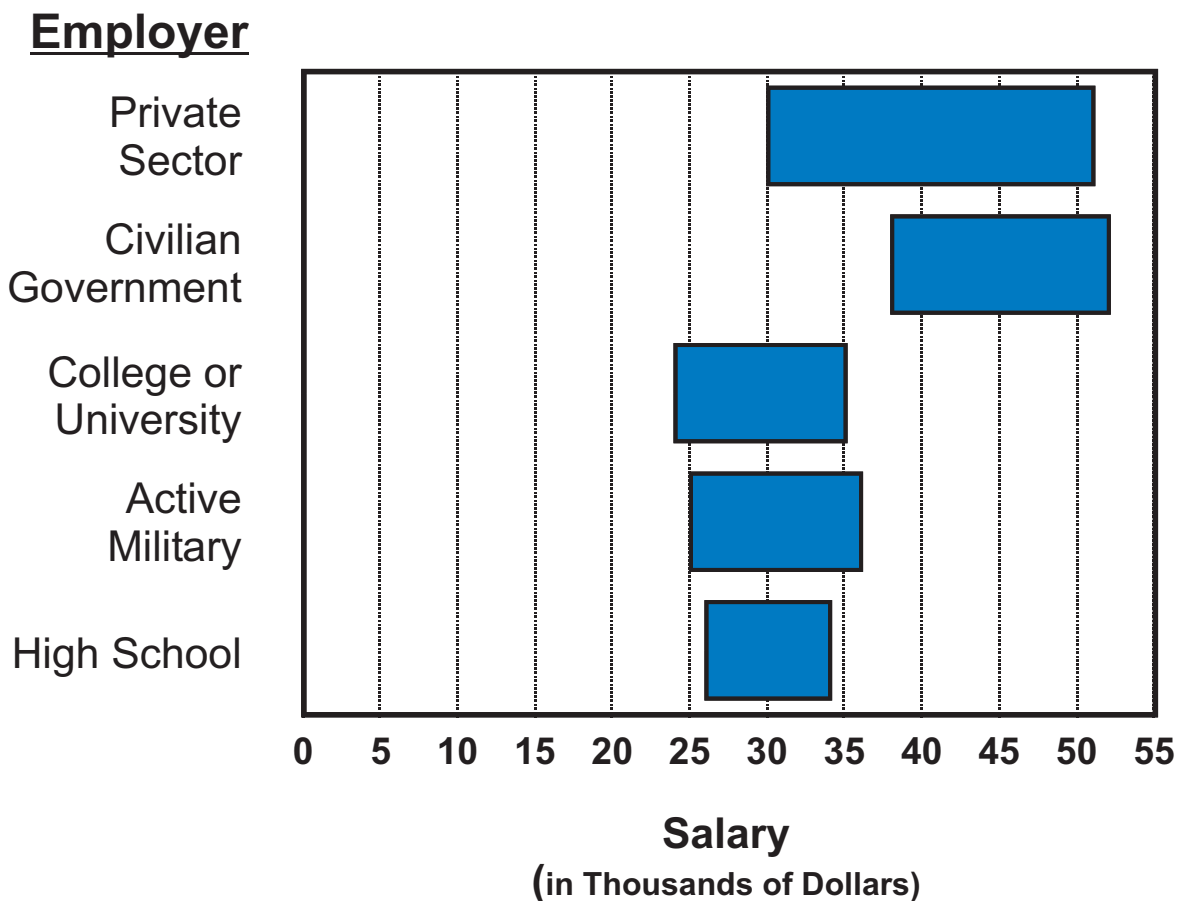
PHYSICS TRENDS

Contact: Patrick J. Mulvey
pmulvey@aip.org

Spring 2004

Typical Starting Salaries

Physics Bachelors, Classes of 2001 & 2002



Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles.

Thanks to the 2,275 bachelor's recipients who responded to the 2001 & 2002 Initial Employment Surveys.

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www.aip.org/statistics

PHYSICS TRENDS

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Winter 2004

Physics Bachelors 1 Year Later

4000 Bachelors Degrees

50%

50%

Employment

1100 Private Sector
250 High School
190 Government
150 Active Military
230 Other

Graduate School

1160 Physics and Astronomy
320 Engineering
200 Other Science and Math
120 Medicine and Law
130 Education and Other

Four percent of the respondents indicated they were unemployed at the time of the survey, which represents about 160 individuals.

Source: Initial Employment Survey - Classes of 2000 and 2001.

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PHYSICS TRENDS

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Fall 2003

What's a Bachelor's Degree Worth?

Typical Salaries Offered by Campus Recruiters, 2002-2003

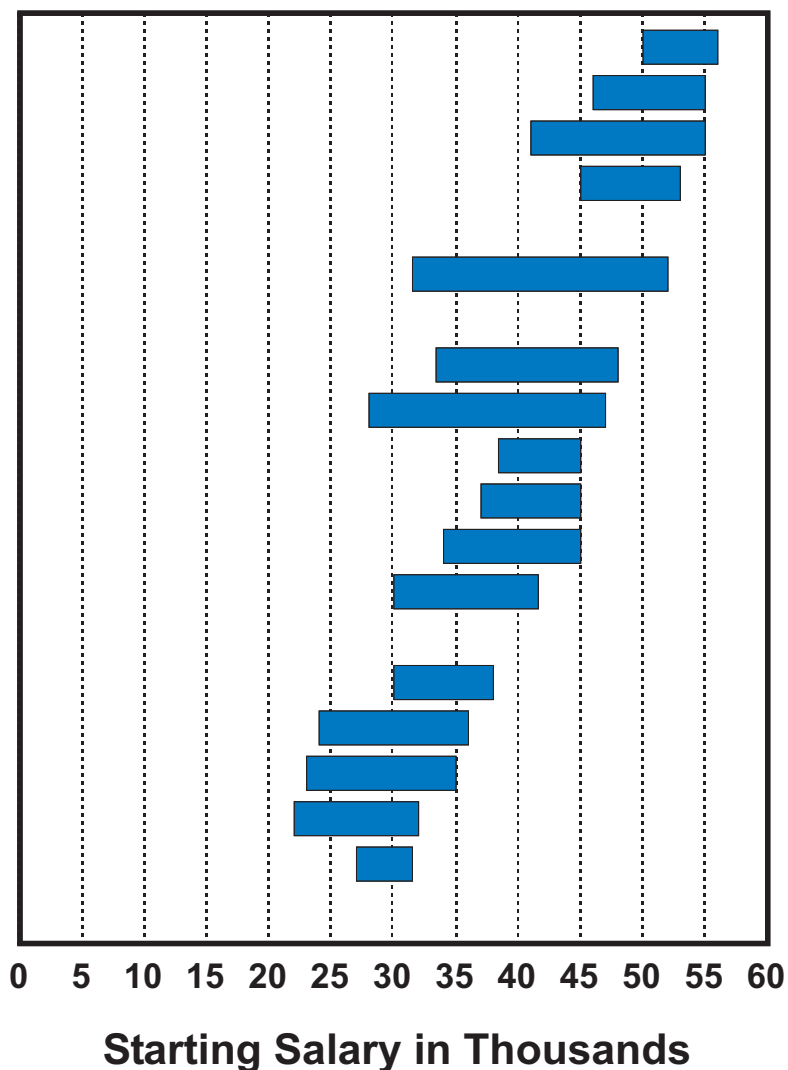
Bachelor's Field

Chemical Engineering
Electrical Engineering
Computer Science
Mechanical Engineering

Physics

Mathematics
Chemistry
Civil Engineering
Accounting
Finance and Economics
Bus. Admin. / Management

Marketing
Environmental Science
Biology / Life Sciences
Psychology
Secondary Education



Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles.

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PHYSICS TRENDS

Contact: Patrick J. Mulvey
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Fall 2003

Physics Students Have Broad Interests

Most Common Double Majors of Physics Bachelors

Mathematics

Engineering

Computer & Information Sciences

Astronomy & Astrophysics

Chemistry

Philosophy & Theology

Music & Fine Arts

Biology

Education & Teaching Certification

History & Political Science

Geosciences

Economics

One-third of physics bachelors graduate with double majors.

Source: Senior (Undergraduate) Survey

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PHYSICS TRENDS

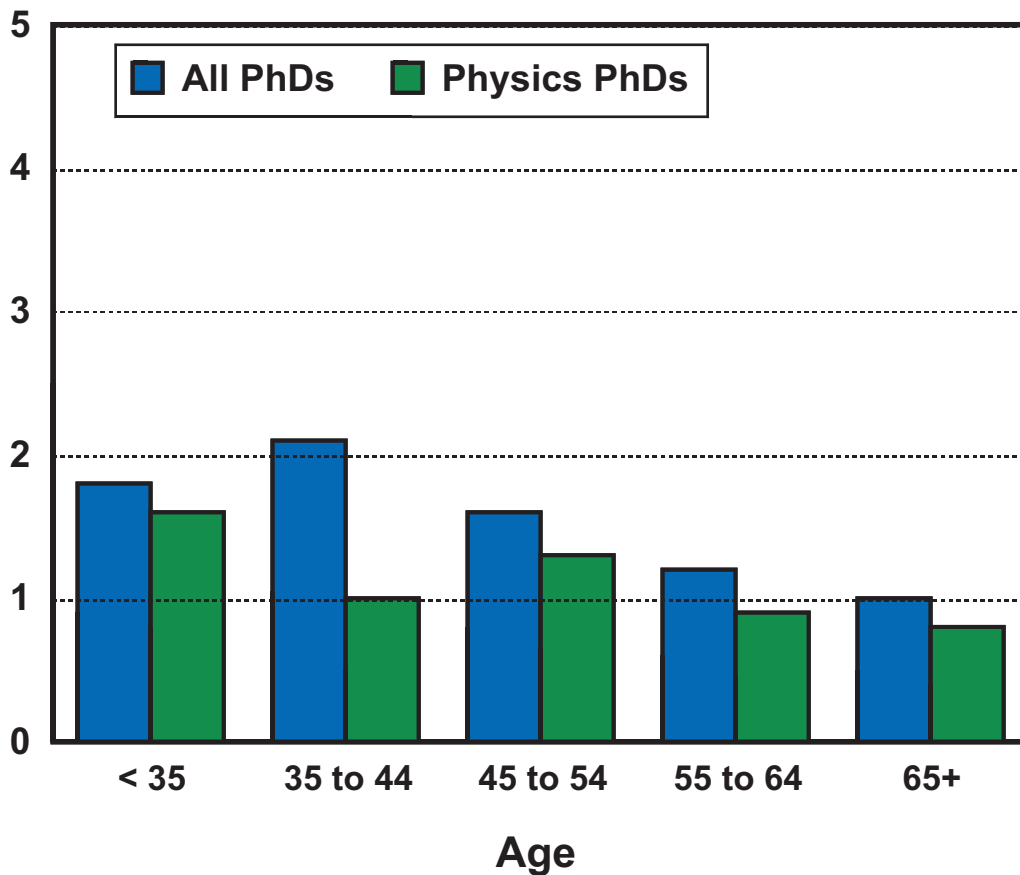
Contact: Raymond Y. Chu
rchu@aip.org

Spring 2003

PhD Unemployment Rates, 2002

Physics PhDs and All PhDs

Percent



Source: American Institute of Physics and Bureau of Labor Statistics

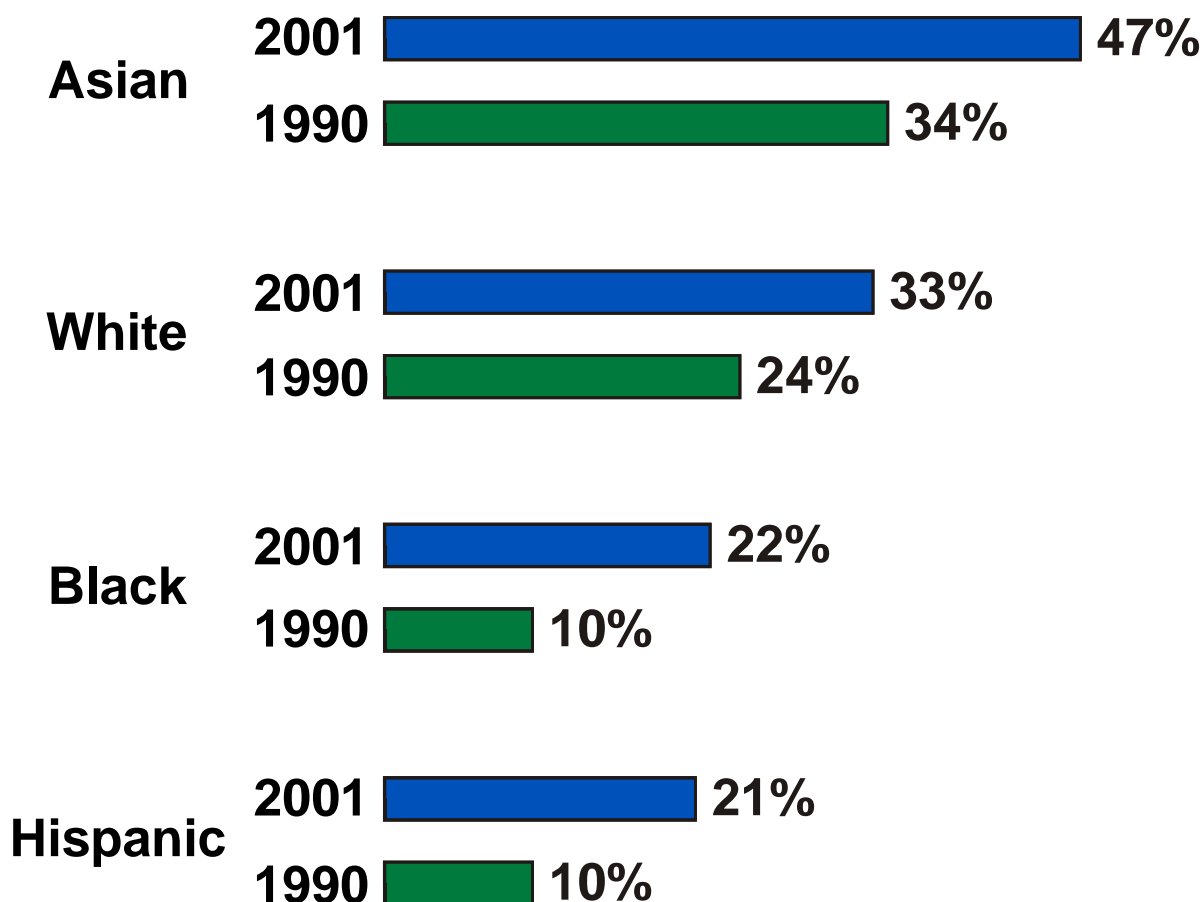
PHYSICS TRENDS

Contact: Michael Neuschatz
mneuscha@aip.org

Winter 2003

Percent of High School Graduates Taking Physics

By Race



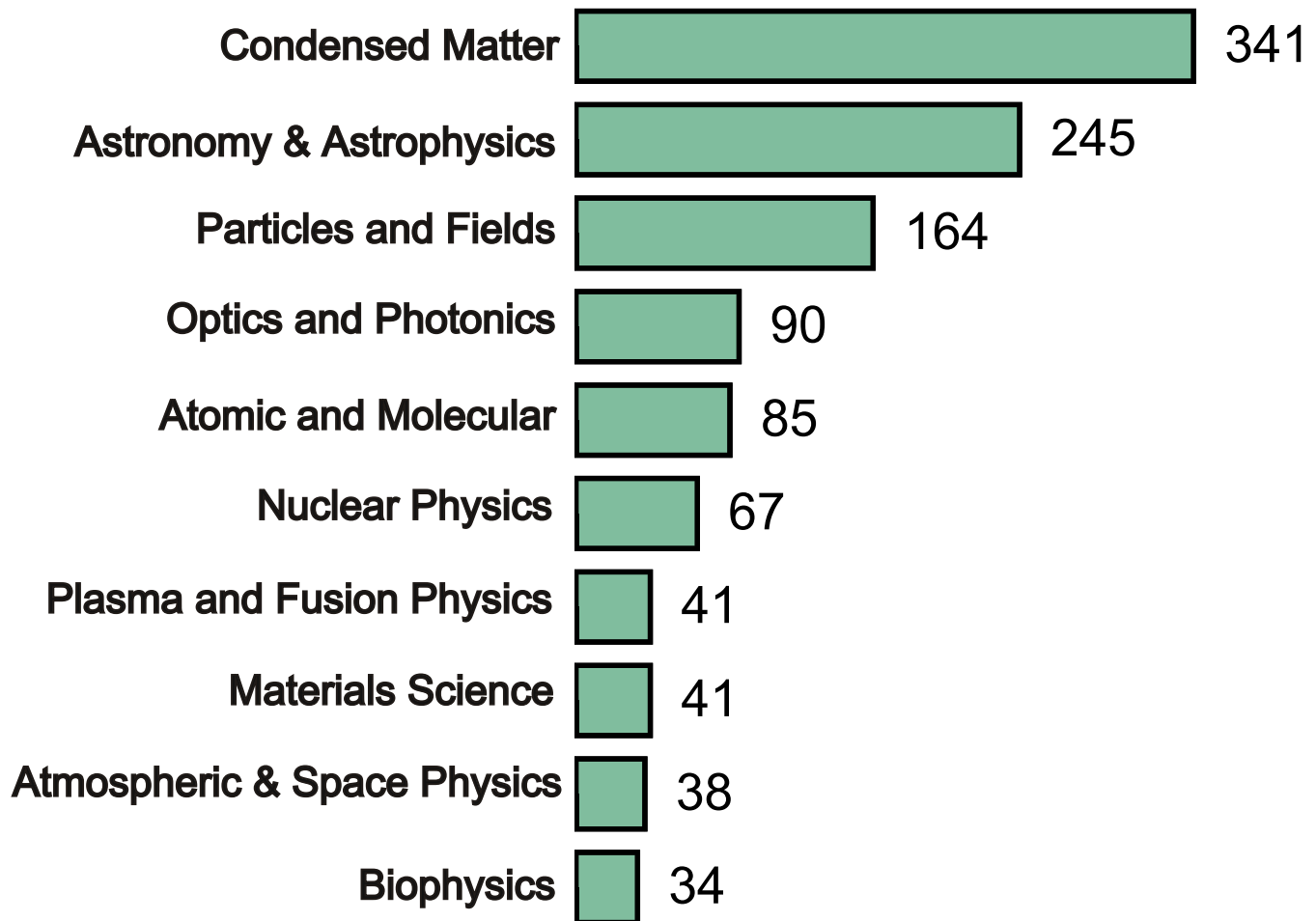
Source: 1989-90 & 2000-01 AIP High School Physics Teacher Surveys

PHYSICS TRENDS

Contact: Patrick J Mulvey
pmulvey@aip.org

Fall 2002

Number of PhDs Granted in Selected Subfields, 2000.



All Other physics subfields 207.

Based on 1353 PhD's from physics and astronomy departments.

Source: 2000 PhD Follow-up survey.

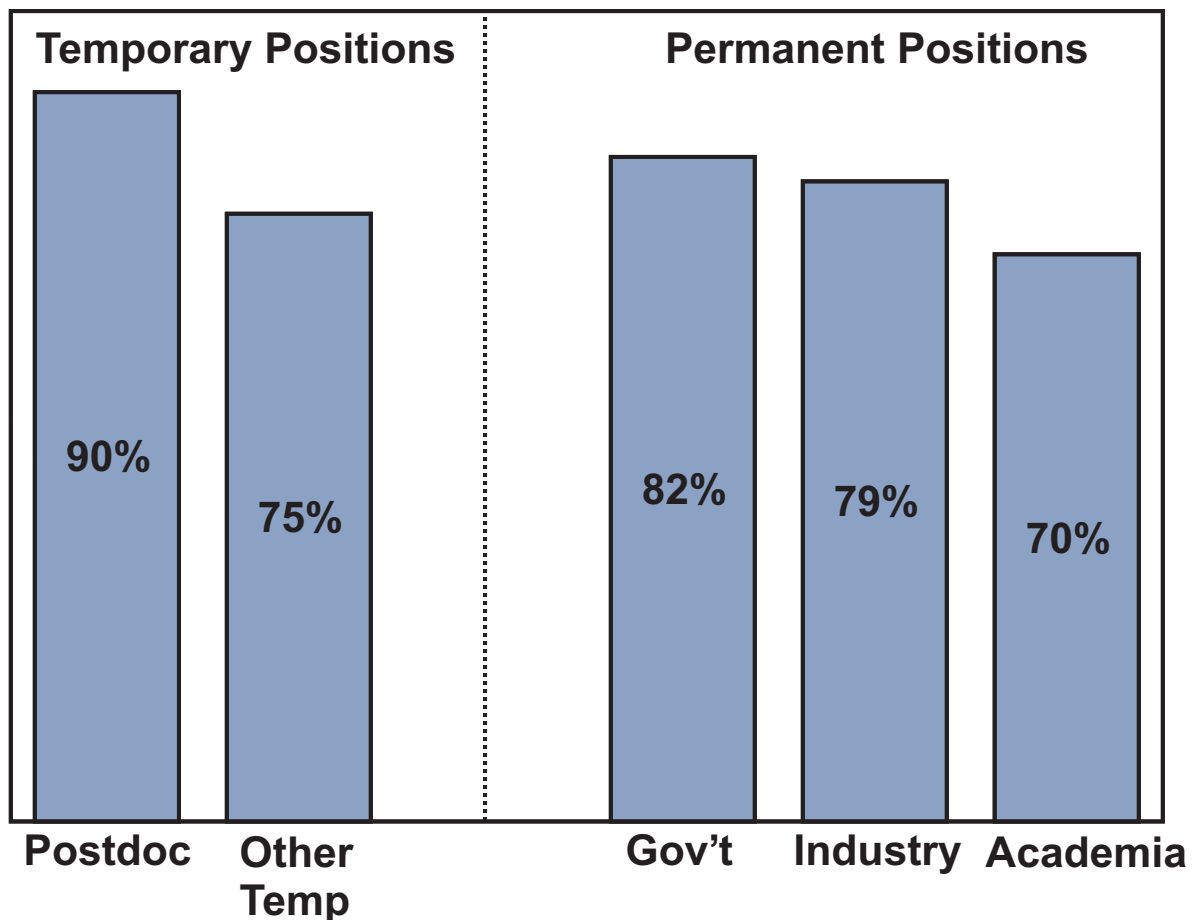
PHYSICS TRENDS

Contact: Patrick J. Mulvey
pmulvey@aip.org

Winter 2002

Professional Challenge

Percentage of PhD s who agreed that their first job was professionally challenging



Source: Initial Employment Report, Classes of 1999 and 2000.

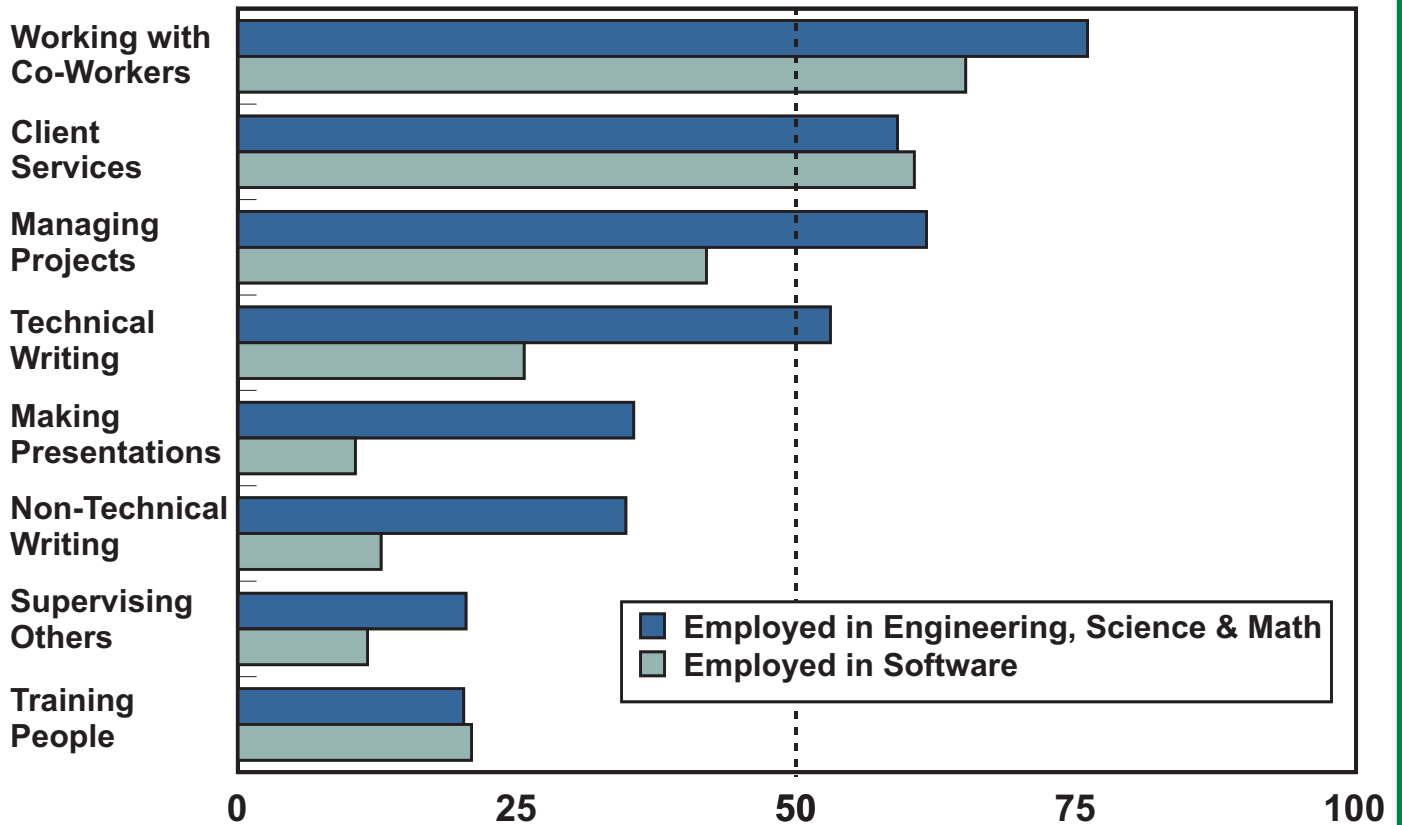
PHYSICS TRENDS

Contact: Rachel Ivie
rivie@aip.org

Winter 2002

Communication and People Skills

Percentage of physics bachelors who spend a large amount of time on the following work activities, 5-7 years after earning their degrees



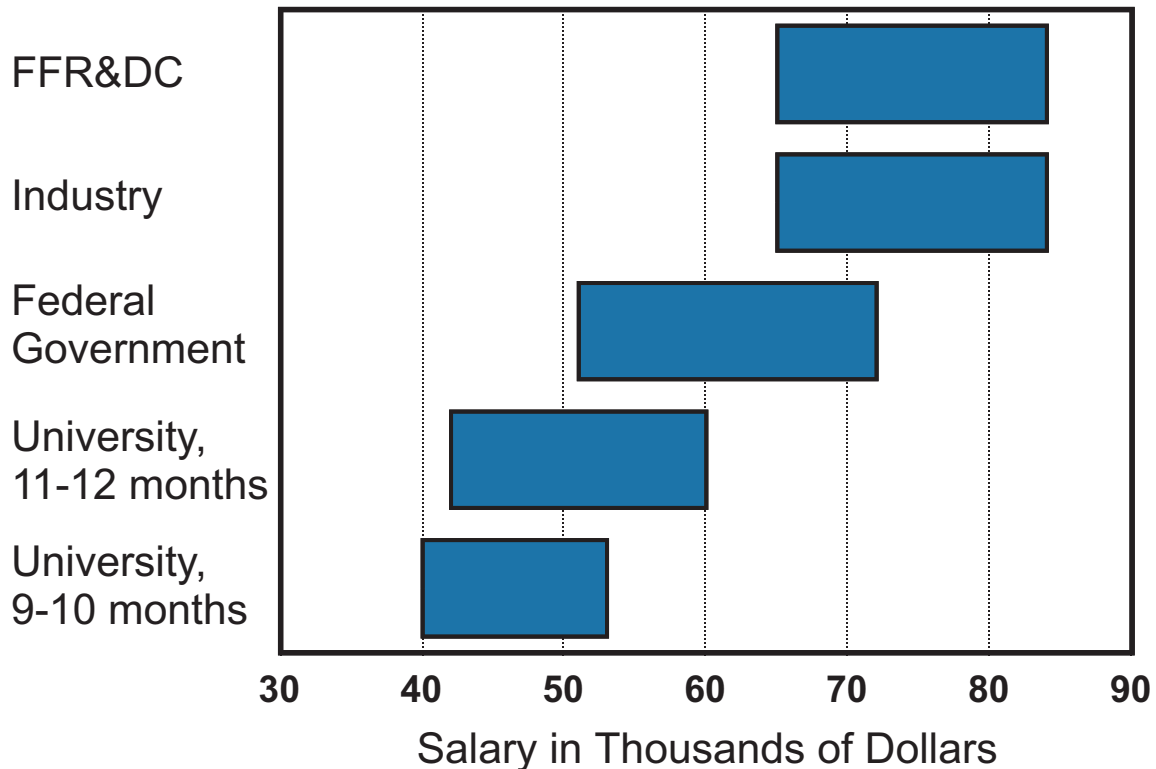
Source: 1998-99 Bachelors Plus Five Study

PHYSICS TRENDS

Contact: Raymond Y. Chu
rchu@aip.org

Fall 2001

Typical Salaries for PhD Physicists Early in Their Careers, 2000



Typical salary ranges for PhDs who have worked for less than five years

FFR&DCs are Federally Funded Research and Development Centers.

Some university salaries are for a full year of work, while others are paid only for the 9 to 10 month academic year.

Source: 2000 Salary Report

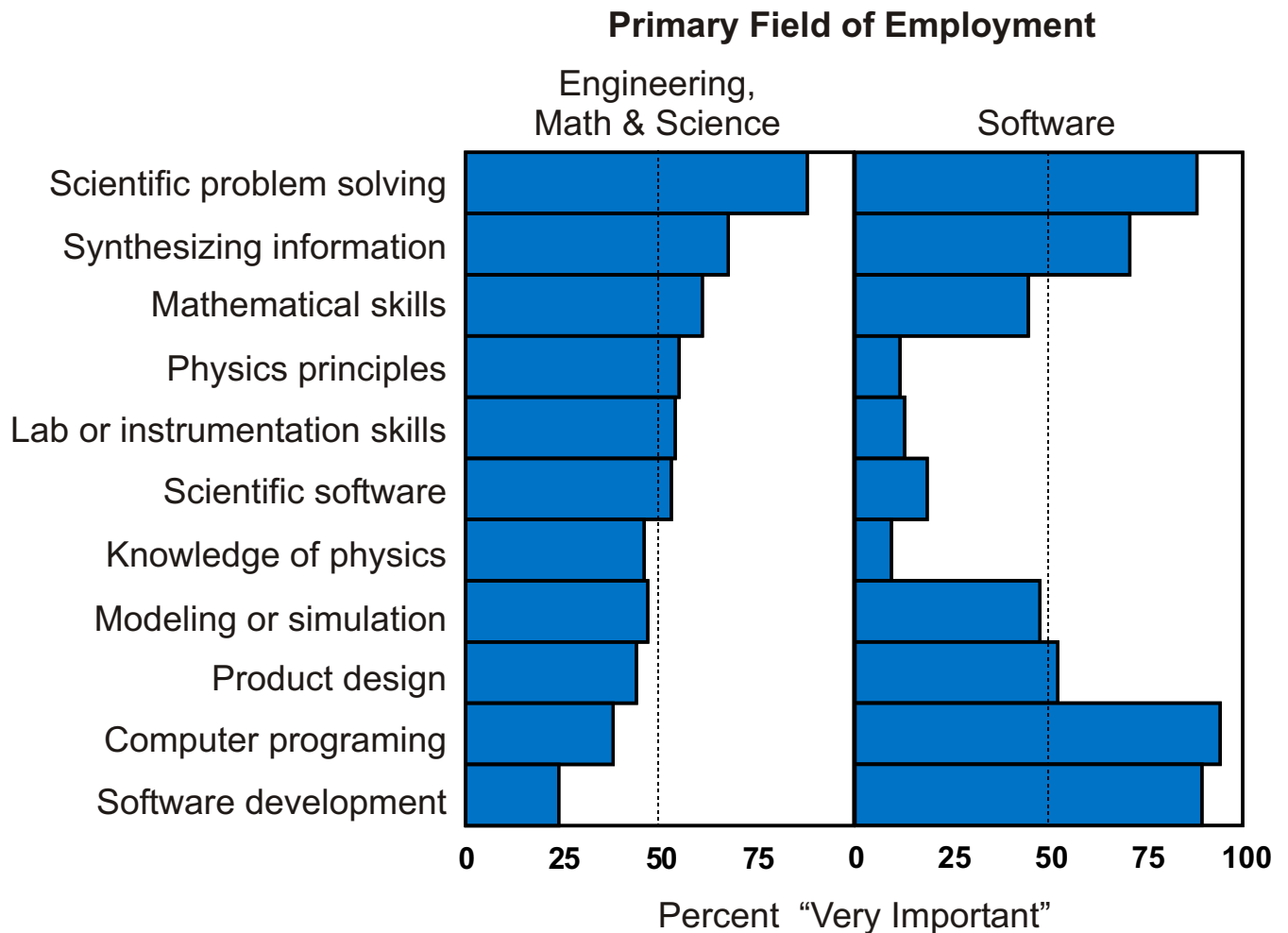
PHYSICS TRENDS

Contact: Rachel Ivie
rivie@aip.org

Fall 2001

What's Important?

Importance of knowledge and skills for physics bachelors, 5 - 7 years after degree



Percentage of physics bachelors who chose 4 or 5 on a 5-point scale where 5 = essential.

Source: 1998-99 Bachelors Plus Five Study, preliminary results

PHYSICS TRENDS

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rivie@aip.org

Spring 2001

What Do Physics Bachelors Do?

<u>Type of Job</u>	<u>Percent</u>
Software	28
Engineering	17
Science & Lab Technician	10
Management, Owner & Finance	19
Education	12
Active Military	5
Service and Other Non-Technical	9

Type of employment of physics bachelors 5 to 7 years after earning their degrees, 1999.

Source: 1998 Bachelors Plus Five Study

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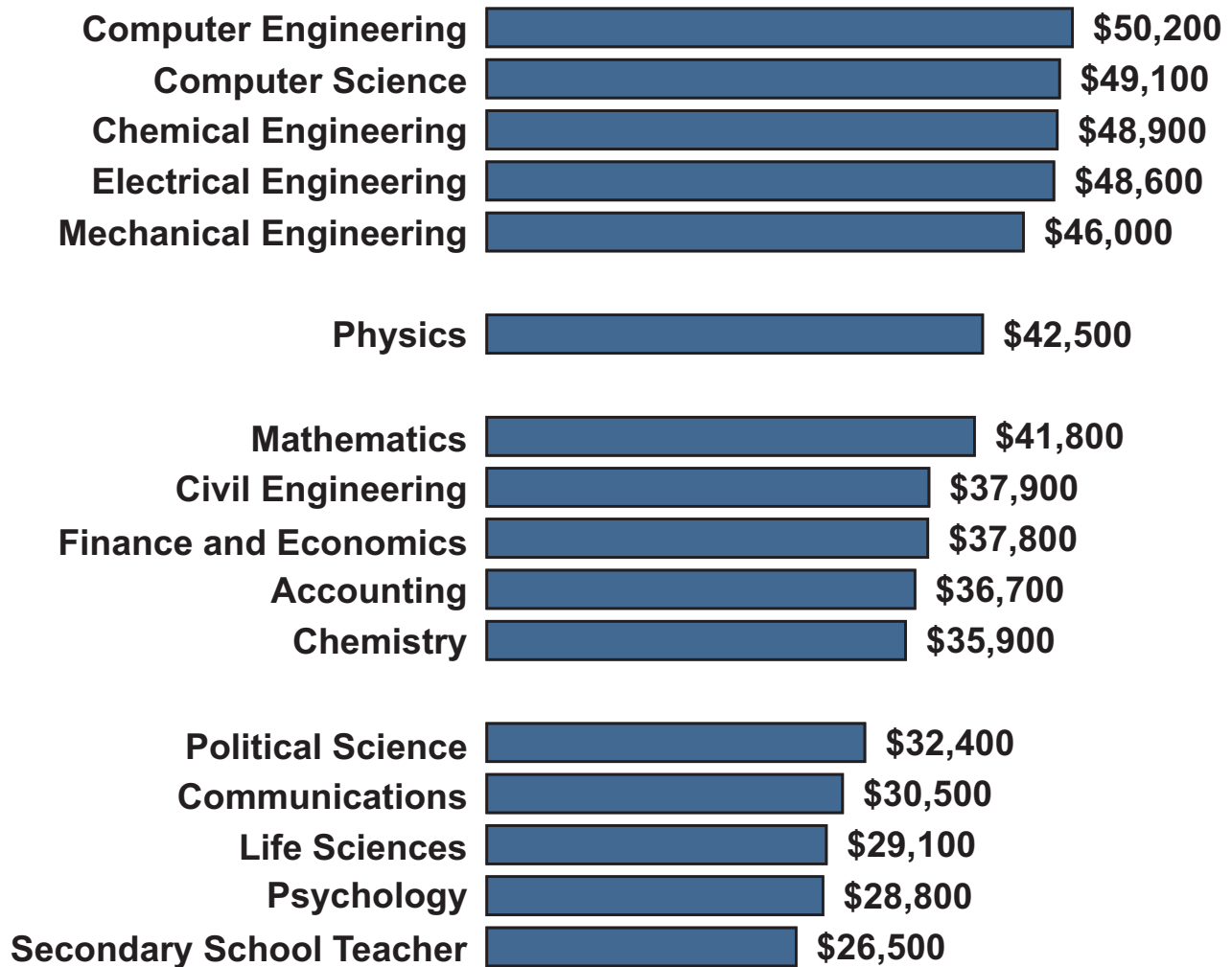
www.aip.org/statistics

PHYSICS TRENDS

Contact: Patrick J. Mulvey
pmulvey@aip.org

Winter 2001

Average Salaries Offered by Campus Recruiters to New Bachelors in Selected Majors, 2000



Source: National Association of Colleges and Employers

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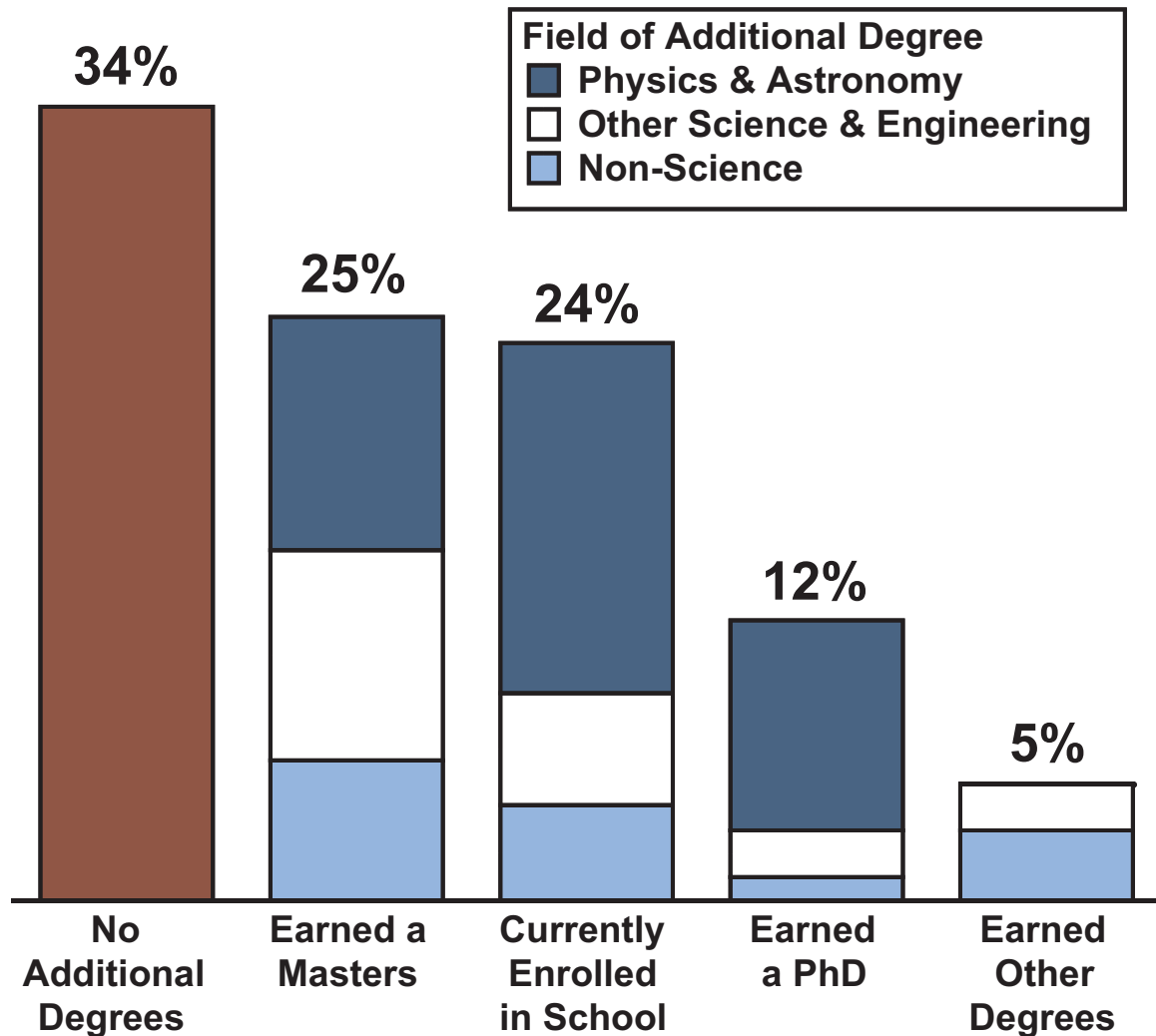
www.aip.org/statistics

PHYSICS TRENDS

Contact: Rachel Ivie
rivie@aip.org

Winter 2001

Highest Degree Obtained by Physics Bachelors, Five to Seven Years After Degree



Source: 1998 Bachelors Plus Five Study

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Contact: Michael Neuschatz
mneuscha@aip.org

April 2000

Considering a Career in High School Teaching?

Teacher certification requirements are different in each state and many states offer several paths to certification. Check out:

www.aip.org/statistics/trends/hstrends.htm

to find out whom to contact to get the latest information on certification requirements in your state.

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