

# What do “Physicists” Do?

Bachelors

Masters

Doctorates

Gathered from

<http://www.aps.org/careers/guidance/statistics.cfm>

# 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

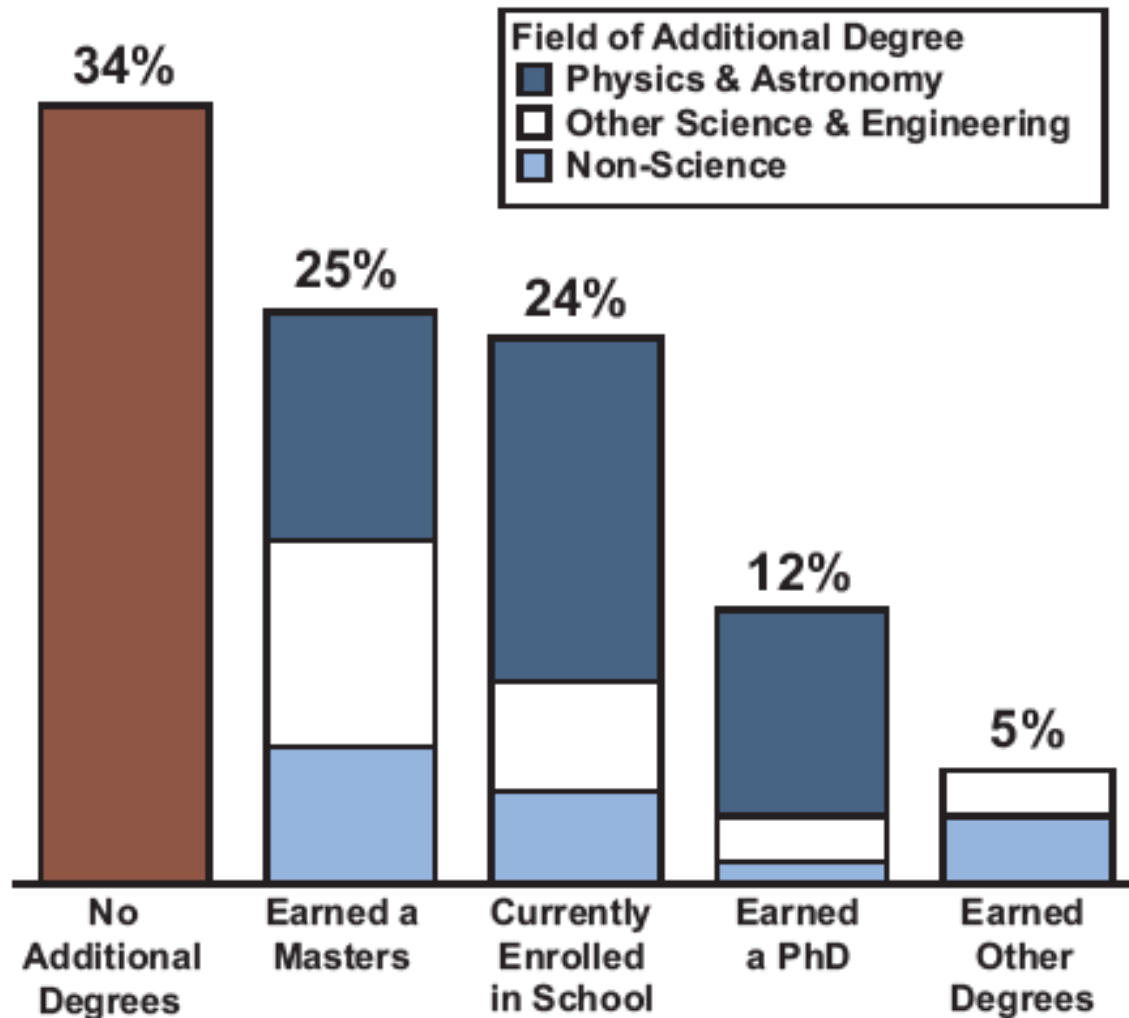
History & Political Science

Geosciences

Economics

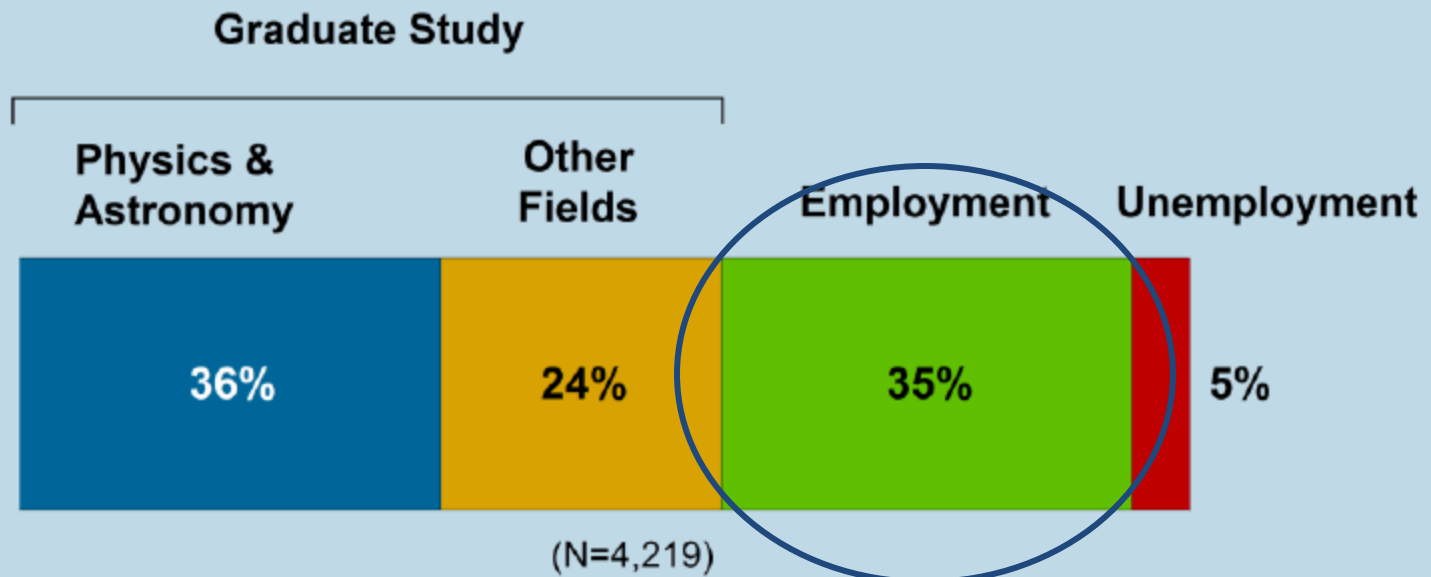
One-third of physics bachelors graduate with double majors.

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



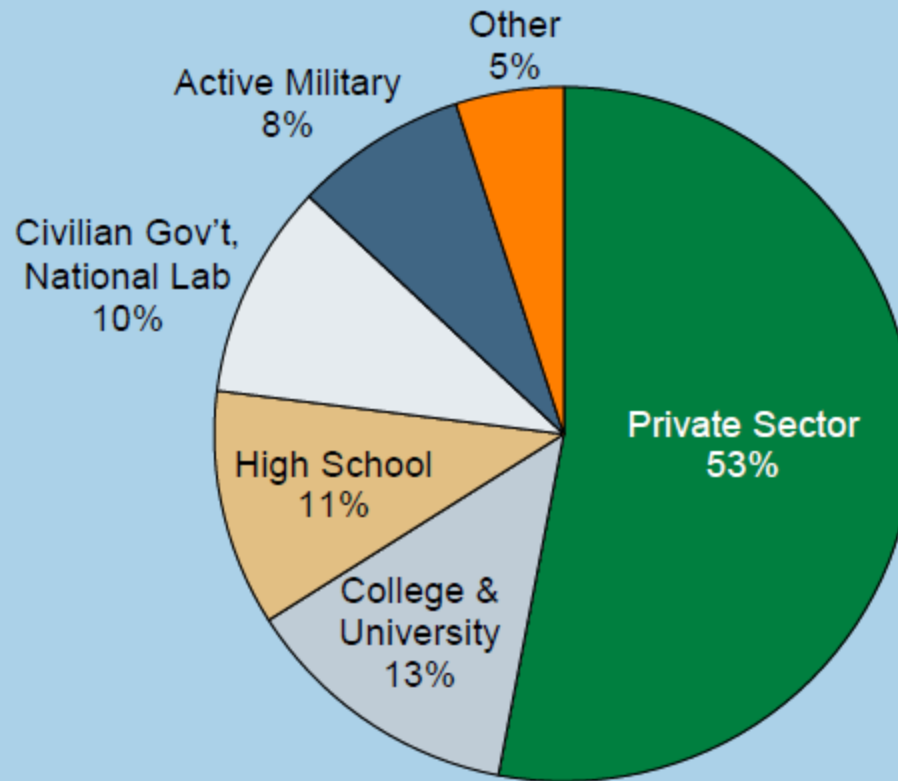
Source: 1998 Bachelors Plus Five Study

## Status One Year After Earning a Physics Bachelor's, Classes of 2009 & 2010 Combined



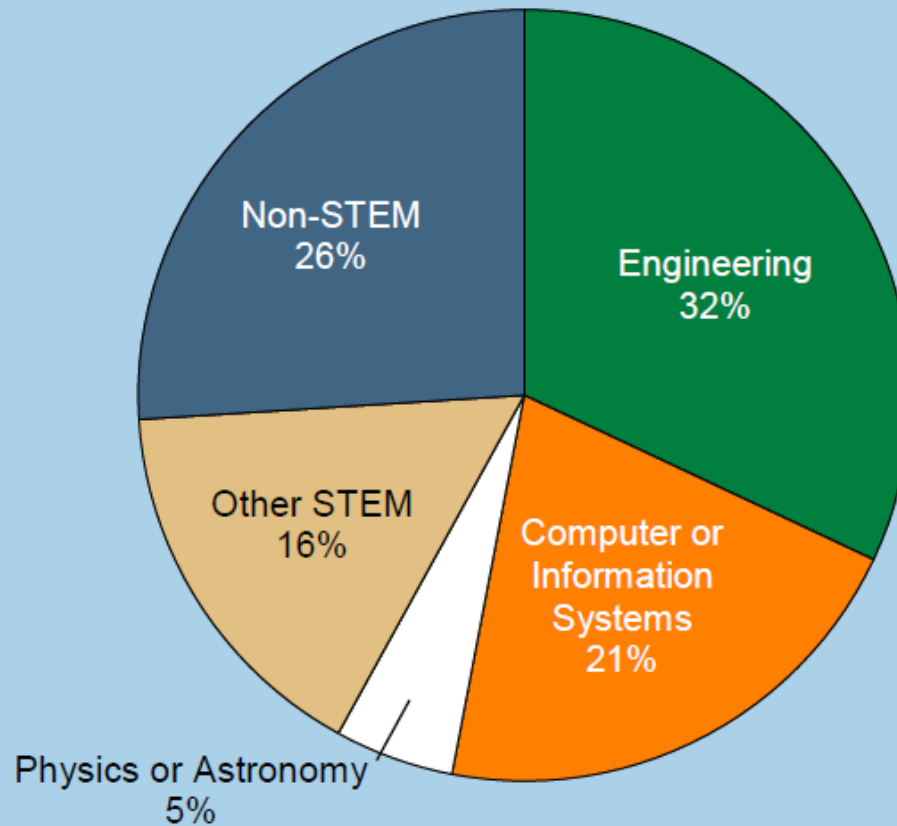
<http://www.aip.org/statistics>

## Initial Employment Sectors of Physics Bachelor's, Classes of 2009 & 2010 Combined



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

## Field of Employment for Physics Bachelor's in the Private Sector, Classes of 2009 & 2010 Combined



STEM refers to natural Science, Technology, Engineering, and Mathematics.

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

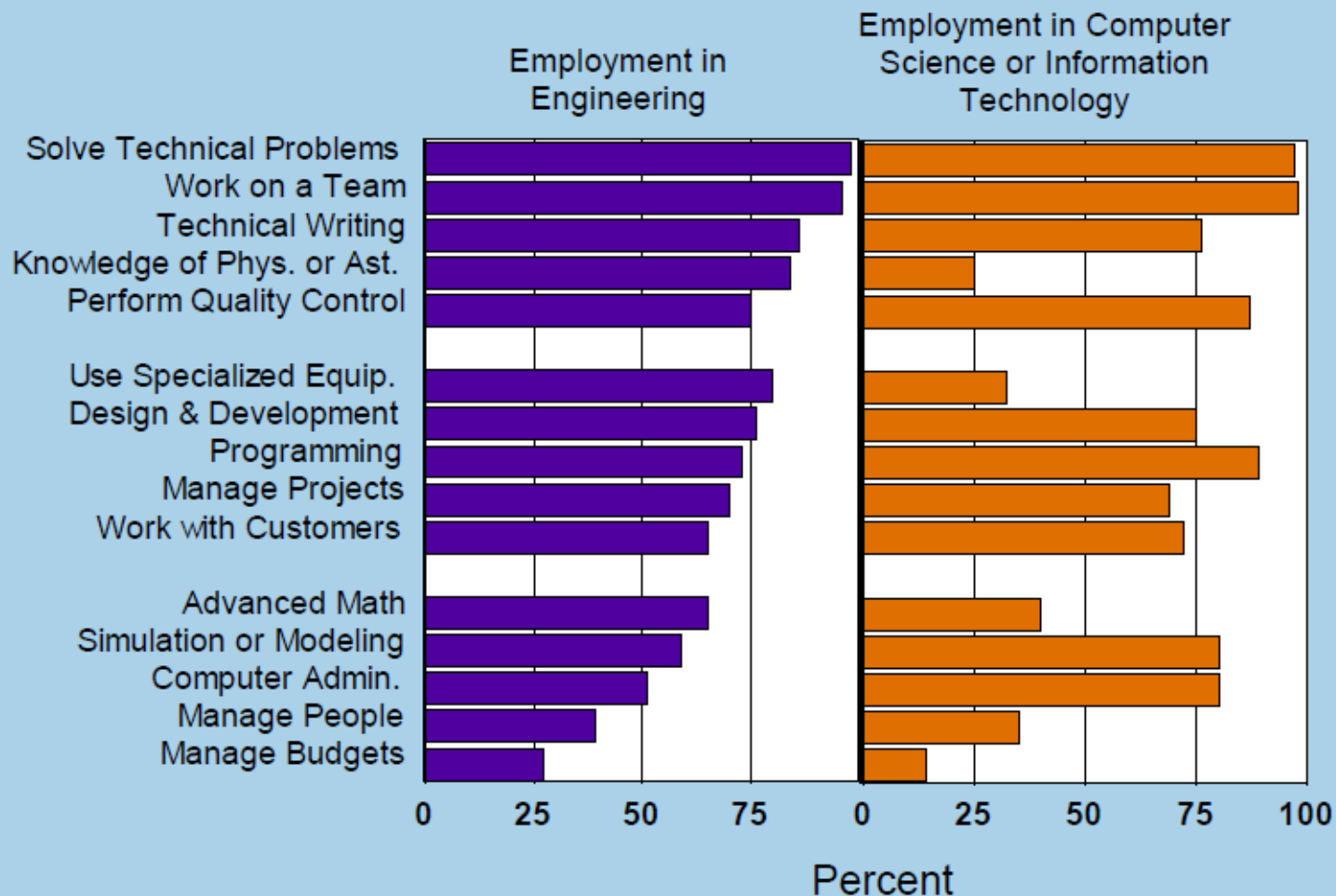
# Predominant Work Activities

## Recent Physics Bachelors

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

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

# Knowledge and Skills Regularly Used by Physics Bachelor's Employed in the Private Sector, Classes of 2009 & 2010 Combined



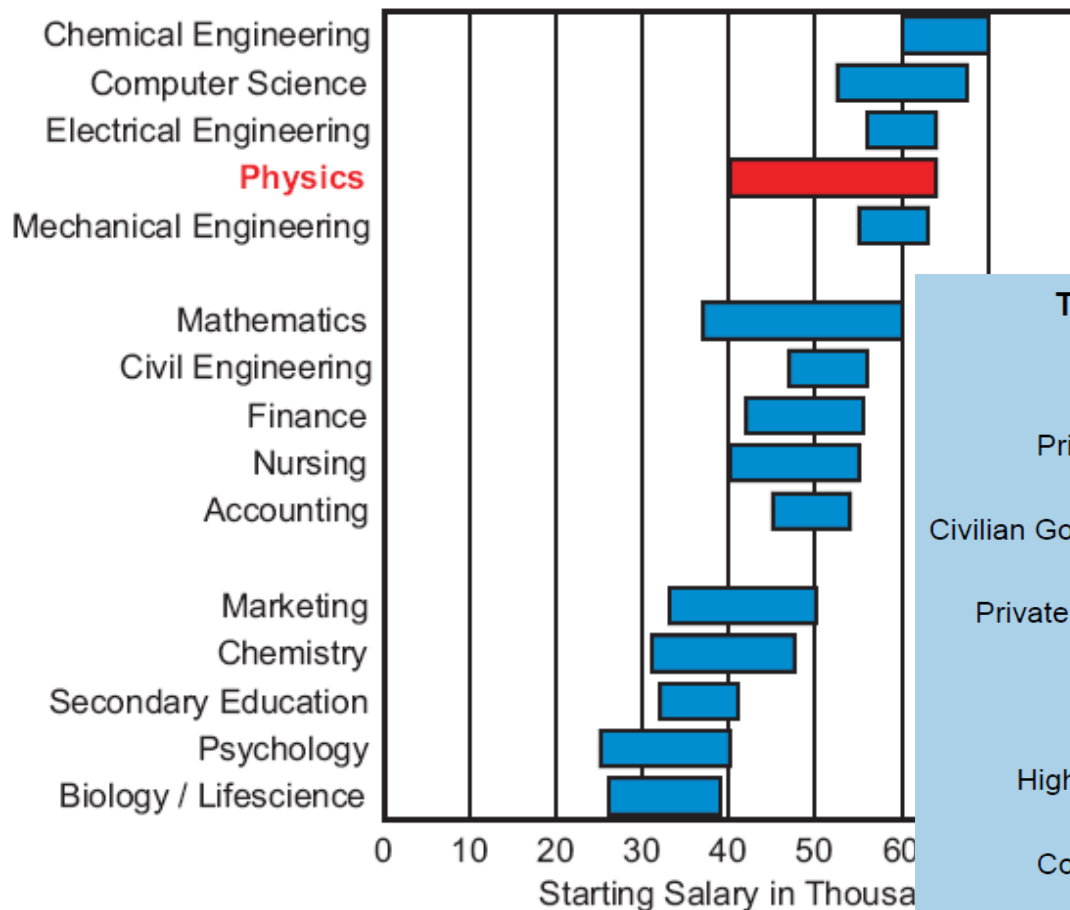
Percentages represent the physics bachelor's who chose "daily", "weekly", or "monthly" on a four-point scale that also included "never or rarely".



# What's a Bachelor's Degree Worth?

Typical Salary Offers by Campus Recruiters, AY 2008-09

## Bachelor's Field



## Typical Starting Salaries for Physics Bachelor's Classes of 2009 & 2010 Combined

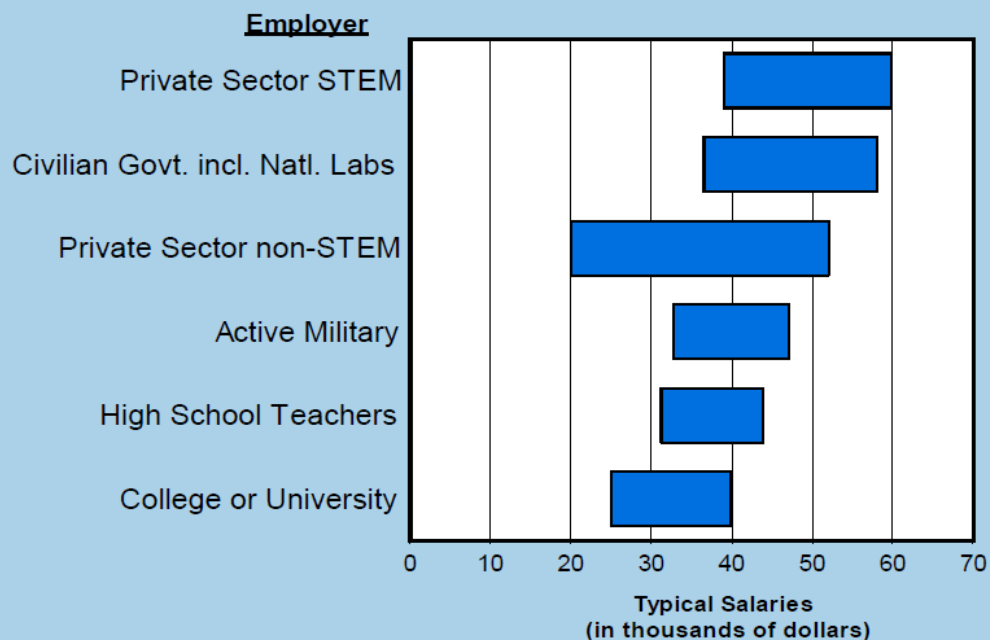


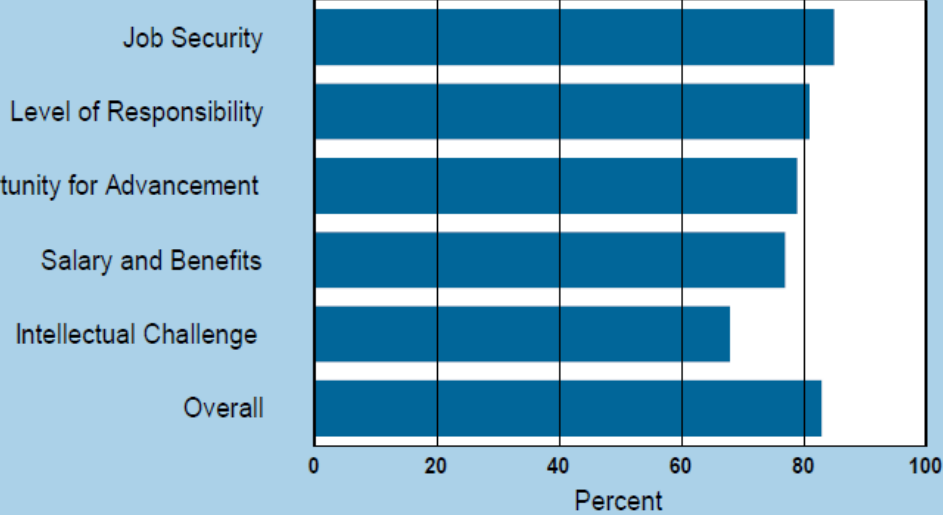
Figure includes only bachelor's in full-time, newly accepted positions.

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

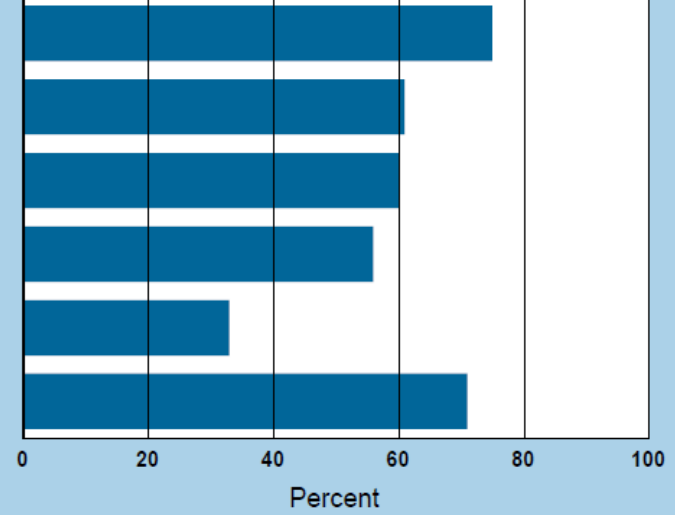
<http://www.aip.org/statistics>

# Job Satisfaction of 2009, 2010 Physics Bachelor's

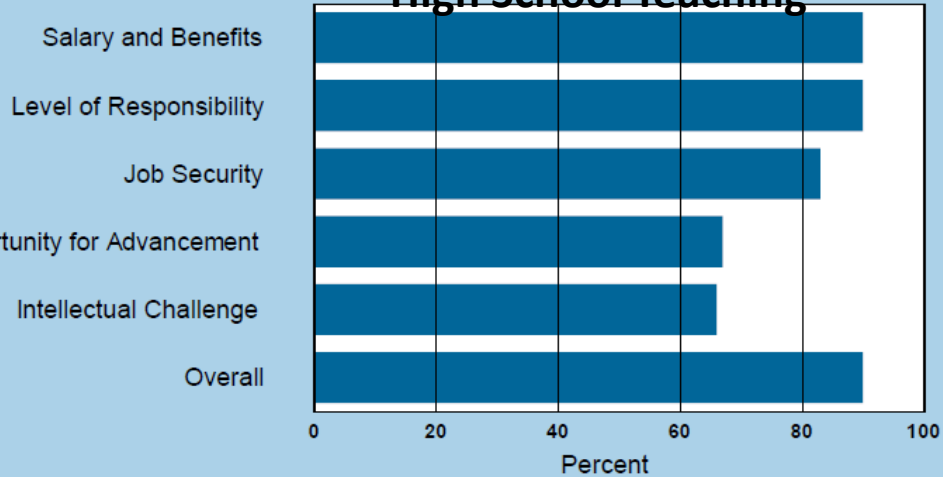
## Private Sector STEM



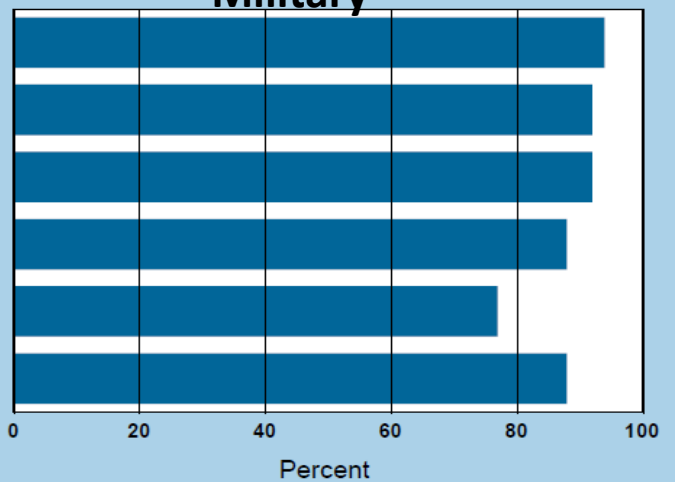
## Private Sector Non-STEM



## High School Teaching



## Military



## Employers in California that recently hired new physics bachelor recipients

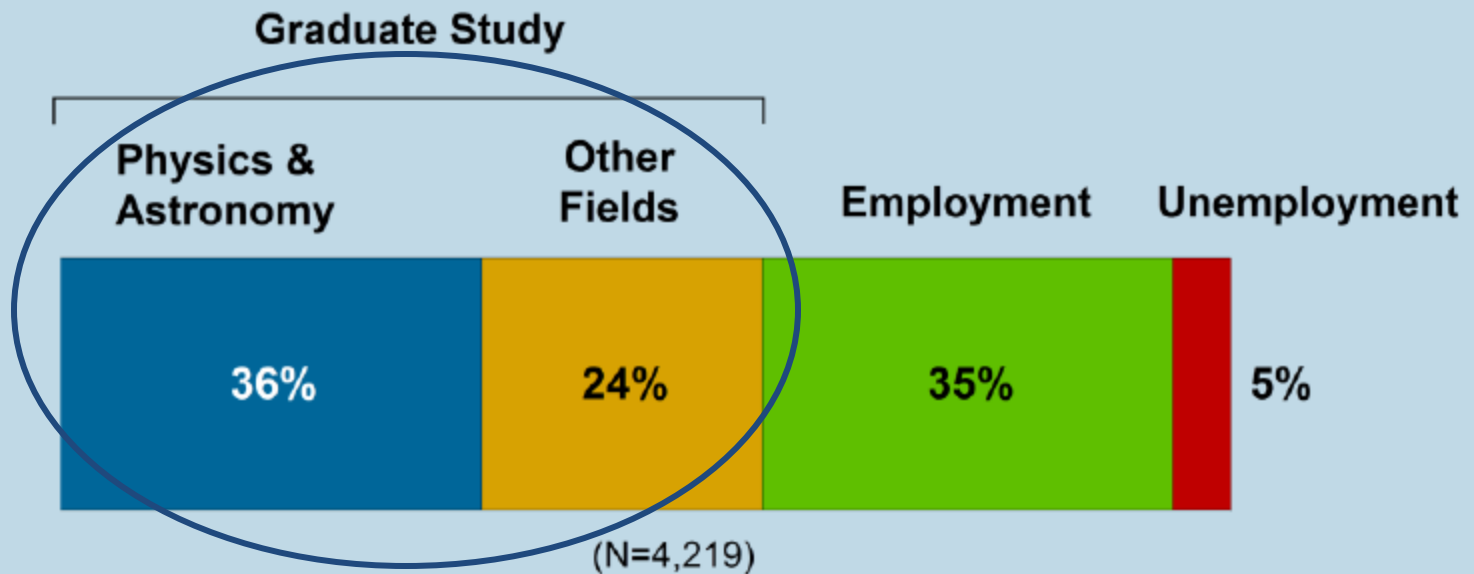
Active Life Technologies  
Aero Jet  
AerospaceComputing, Inc.  
Aerotek  
Agilent Technologies  
AGR, LLC  
ALPOGO Air Conditioning  
Amgen, Inc.  
Apple, Inc.  
Applied Operations Research, Inc.  
Areias Systems, Inc.  
Arete Associates  
Arlon-M.E.D.  
Arrowhead General Insurance Agency  
Asbestos TEM Labs  
BAE Systems  
Boeing  
Business Researchers, Inc.  
California Analytical Instruments  
Calliope  
Continental DataGraphics  
Deluxe Digital Camera  
E&M Electric  
E2 Manage Tech, Inc.  
Eberline Services  
Electronic Arts  
Electro-Optical Industries  
Energy and Environmental Economics, Inc.  
eSolar, Inc.  
Fire Cause Analysis  
Fiserv FSC Insurance  
Five Point Capital  
Flowroute, LLC  
General Atomics  
Gotama Building Engineers  
GreenVolts  
Havok  
HR Textron  
IBM Almaden Research Center  
Idealab  
Illumina, Inc.  
Impulse Devices  
Information Systems Professionals (Ispro)  
Intel Corporation

Intel Corporation  
J.D. Lincoln, Inc.  
Jet Propulsion Laboratory (JPL)  
KEMA  
Kern County Fire Department  
Kiff Analytical, LLC  
KOMENAR Publishing  
Lawrence Berkeley National Laboratory (LBL)  
LDI Mechanical, Inc.  
Leonard Kroko, Inc.  
Litel Instruments  
Lockheed Martin Corporation  
Master-McNeil  
Maxim Systems, Inc.  
MedAvant HealthCare Solutions  
Melles Griot  
MeridianLink  
Mochila  
MRI  
Multiprobe, Inc.  
Nanolmaging Services  
Nanosolar, Inc.  
NASA/Caltech Jet Propulsion Lab  
Northrop Grumman

NVIDIA  
O'Melveny & Myers, LLP  
OptiSolar, Inc.  
Pacific Alternative Asset Management Co.  
Particle Beam Physics Laboratory  
Perfect Point EDM Corp.  
QUASAR  
Quicksilver Software, Inc.  
RadiaBeam Technologies  
Raytheon  
RBH Aerospace, Inc.  
Revolution Prep  
Rhythm and Hues Studios  
San Francisco Superior Court  
Santa Cruz Institute for Particle Physics  
Scripps Research Institute  
SCS Energy  
Sequenom  
SharePoint 360  
Shimmick Construction, Inc.  
Stanford Linear Accelerator Center (SLAC)  
Soladigm  
Solyndra  
Sonoscan, Inc.  
Space Micro, Inc.

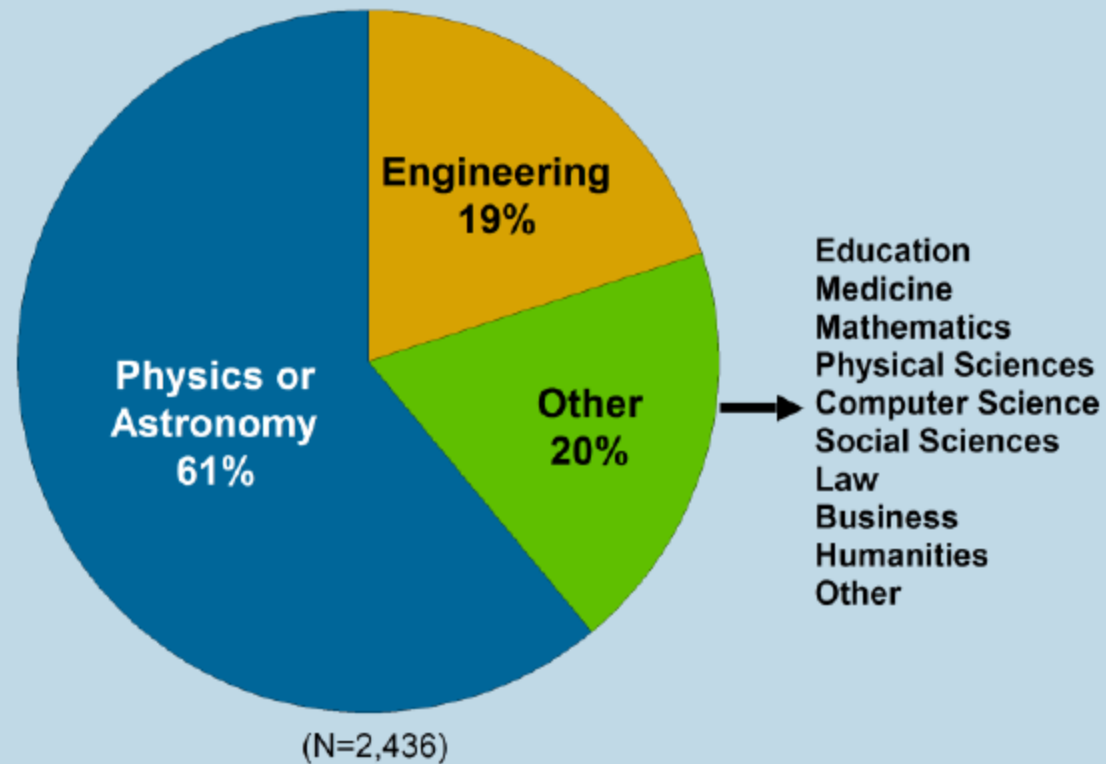
Spectra-Physics  
Stantec  
Superconductor Technologies, Inc.  
Sylvan  
ThatGameCompany  
The End Result  
The Princeton Review  
TriAccess Technologies  
UC Berkeley Space Sciences Laboratory  
UCI Medical Center  
United Health Group, Inc.  
Universities Space Research Association  
ViaSat, Inc.  
Walt Disney Imagineering  
WET Design  
Xoma, LLC

## Status One Year After Earning a Physics Bachelor's, Classes of 2009 & 2010 Combined



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

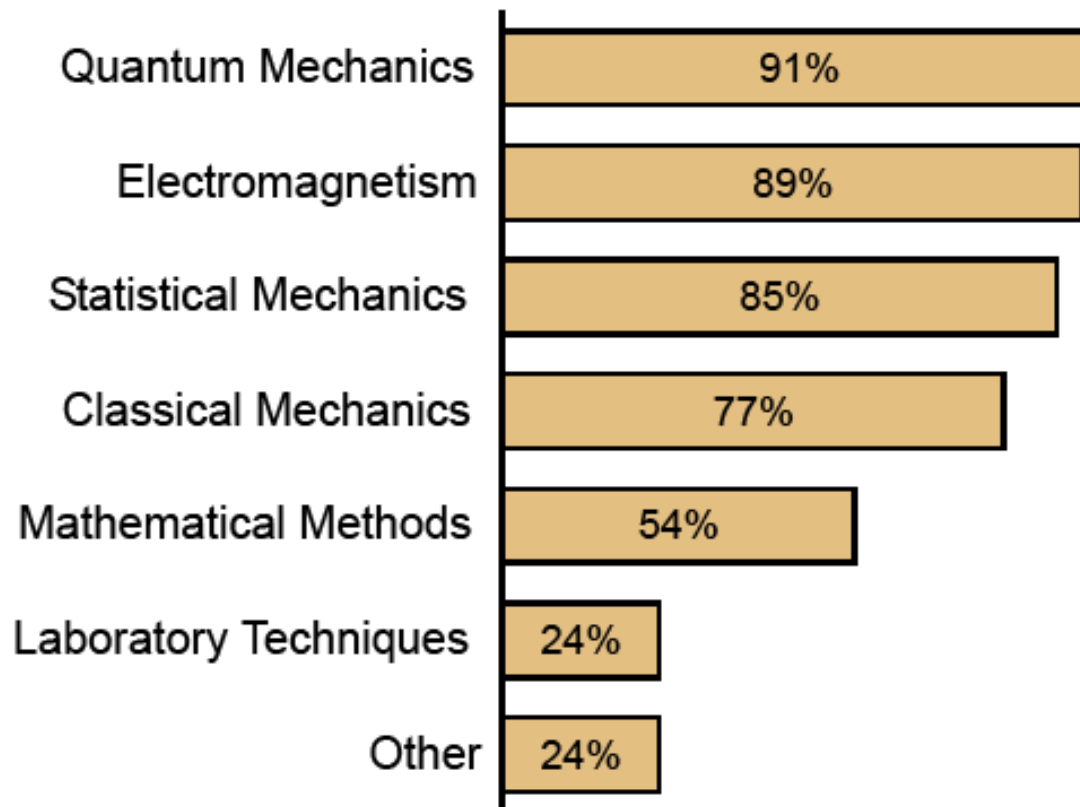
## Fields of Study for Physics Bachelor's Continuing Directly Onto Graduate Study, Classes of 2009 & 2010 Combined



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

# Courses Required for a Physics PhD Or masters

Percent of Departments



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



# Physics Masters 1 Year Later

US Citizens Only - Classes of 2005 & 2006

**500 Masters Degrees**

```
graph TD; A[500 Masters Degrees] -- 75% --> B[Employment]; A -- 25% --> C[Graduate School];
```

**75%**

**25%**

## 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**

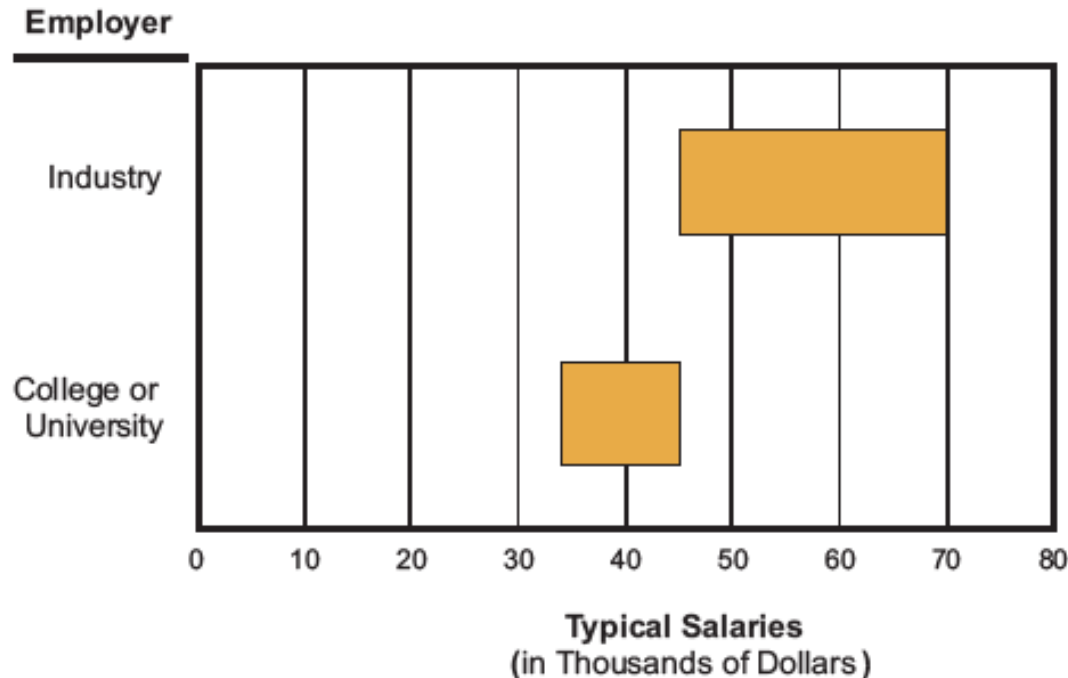
Data reflect masters who are leaving their current department in a given year.

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.

# Masters Starting Salaries

Physics Masters Classes of 2002 & 2003

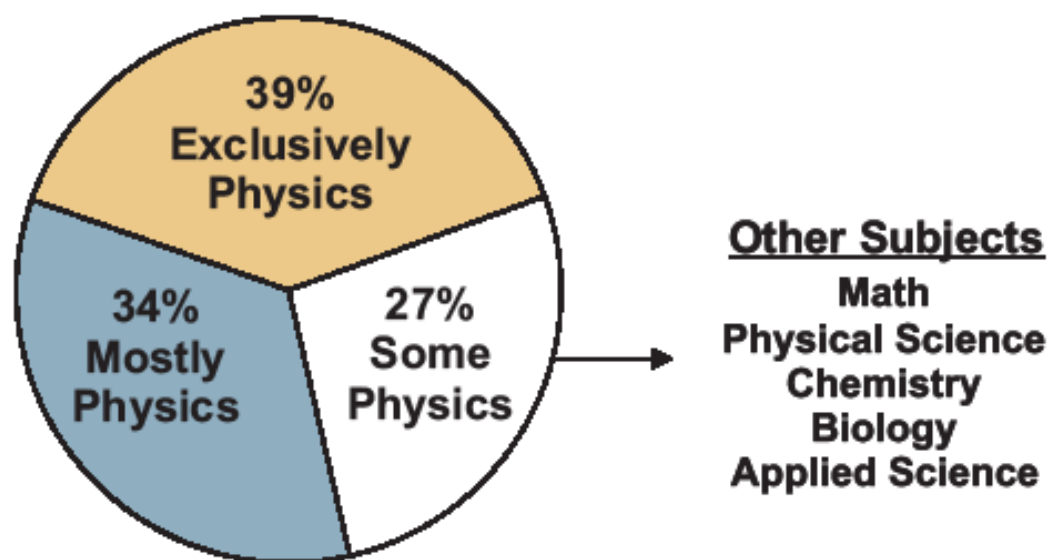


Typical salaries are the middle 50%, i.e., between the 25th and 75th percentiles.

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

# What Do High School Physics Teachers Teach?

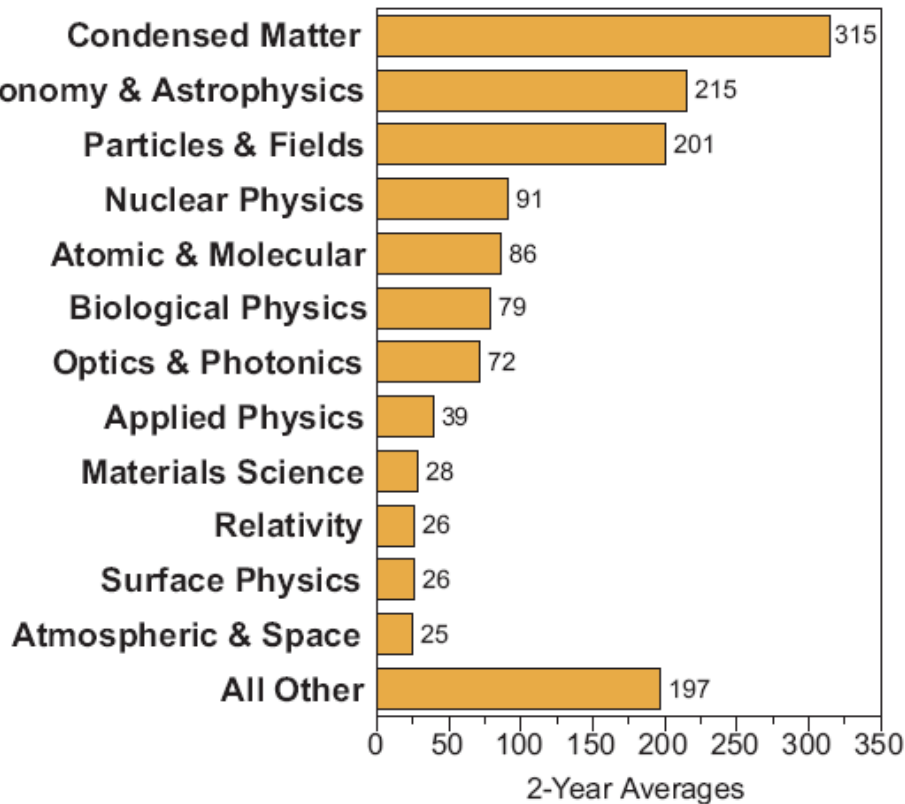
Recently Hired Teachers with Physics Degrees



The average teaching load is 5 classes per term.

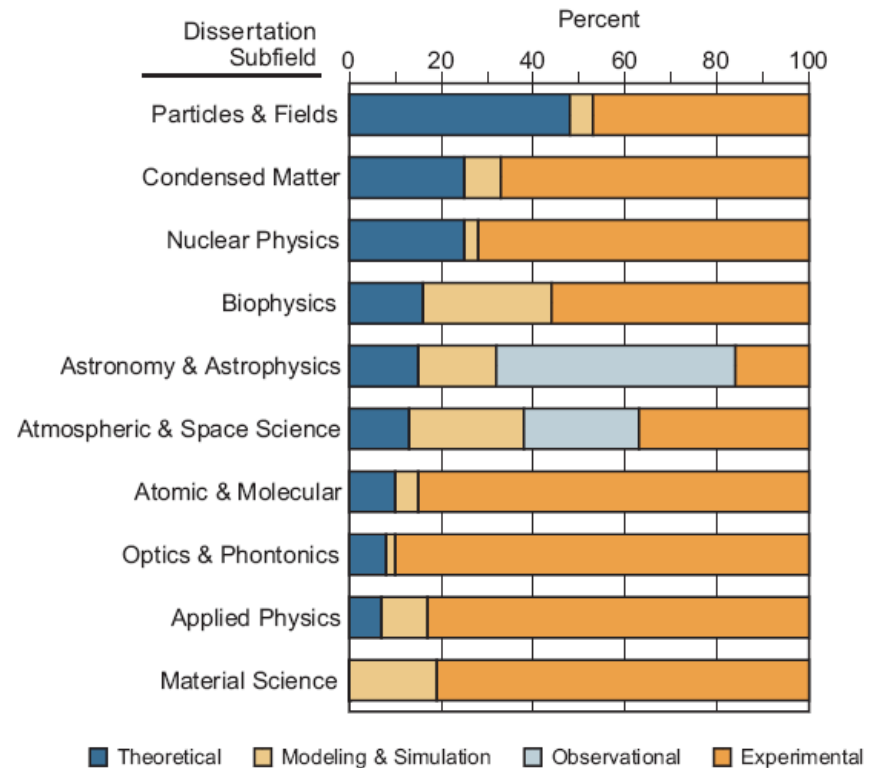
# PhDs by Subfield

## Physics & Astronomy PhDs of 2005 & 2006

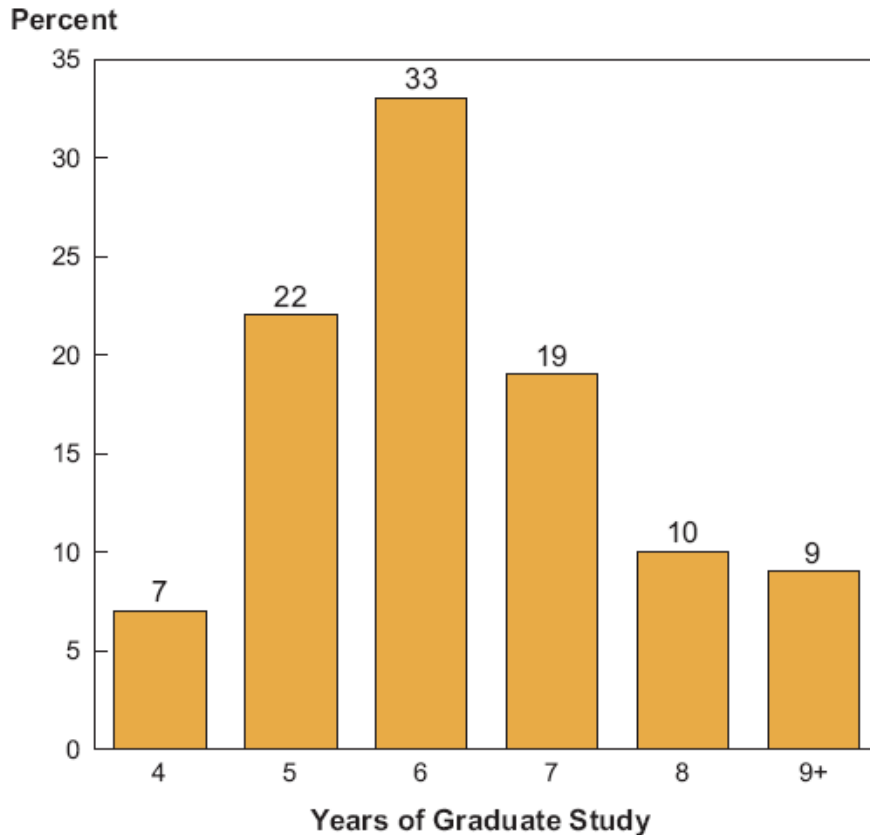


## Type of Dissertation Research

### Physics and Astronomy PhD Classes of 2002 & 2003

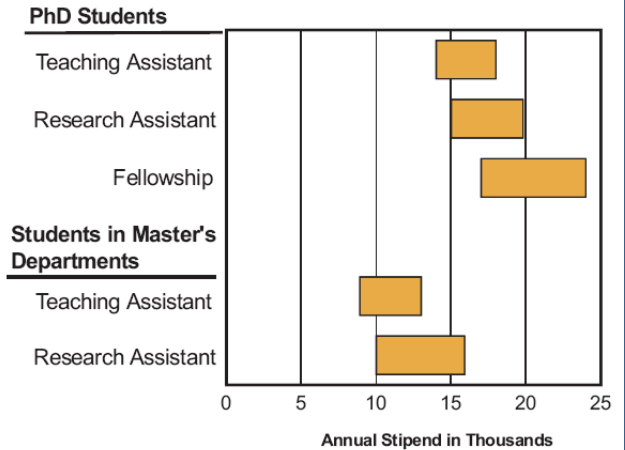


# Physics PhD How Long Does it Take?

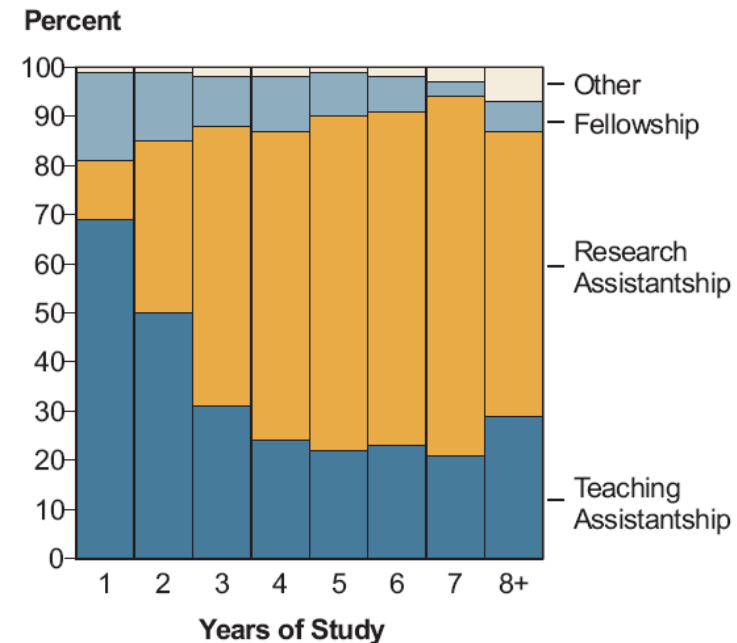


This graph depicts the number of full-time equivalent years of physics graduate study completed by the PhD class of 2004. US Citizens only.

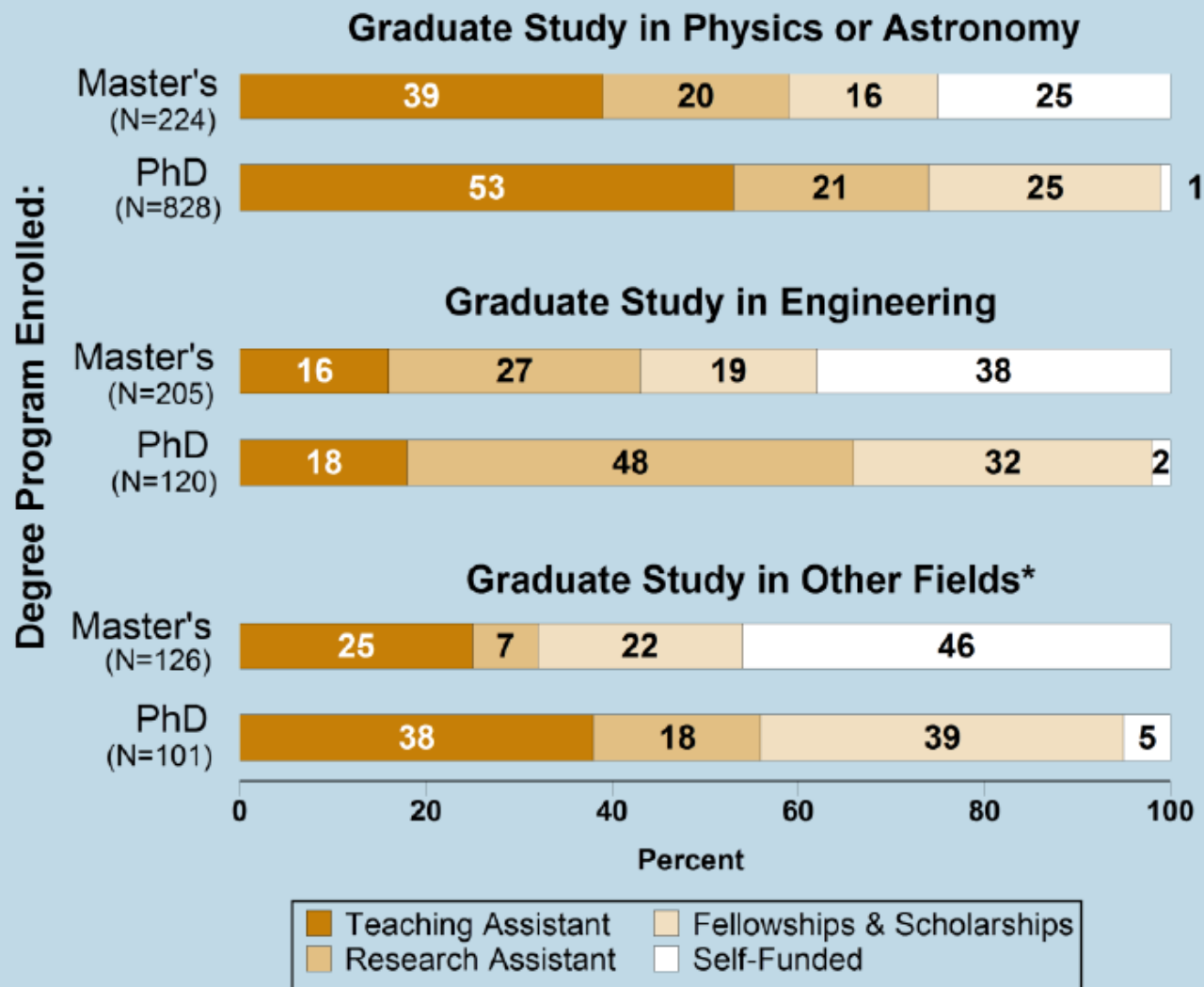
## Typical Stipends Full-time Physics Graduate Students



## Primary Type of Support for Physics Doctoral Students

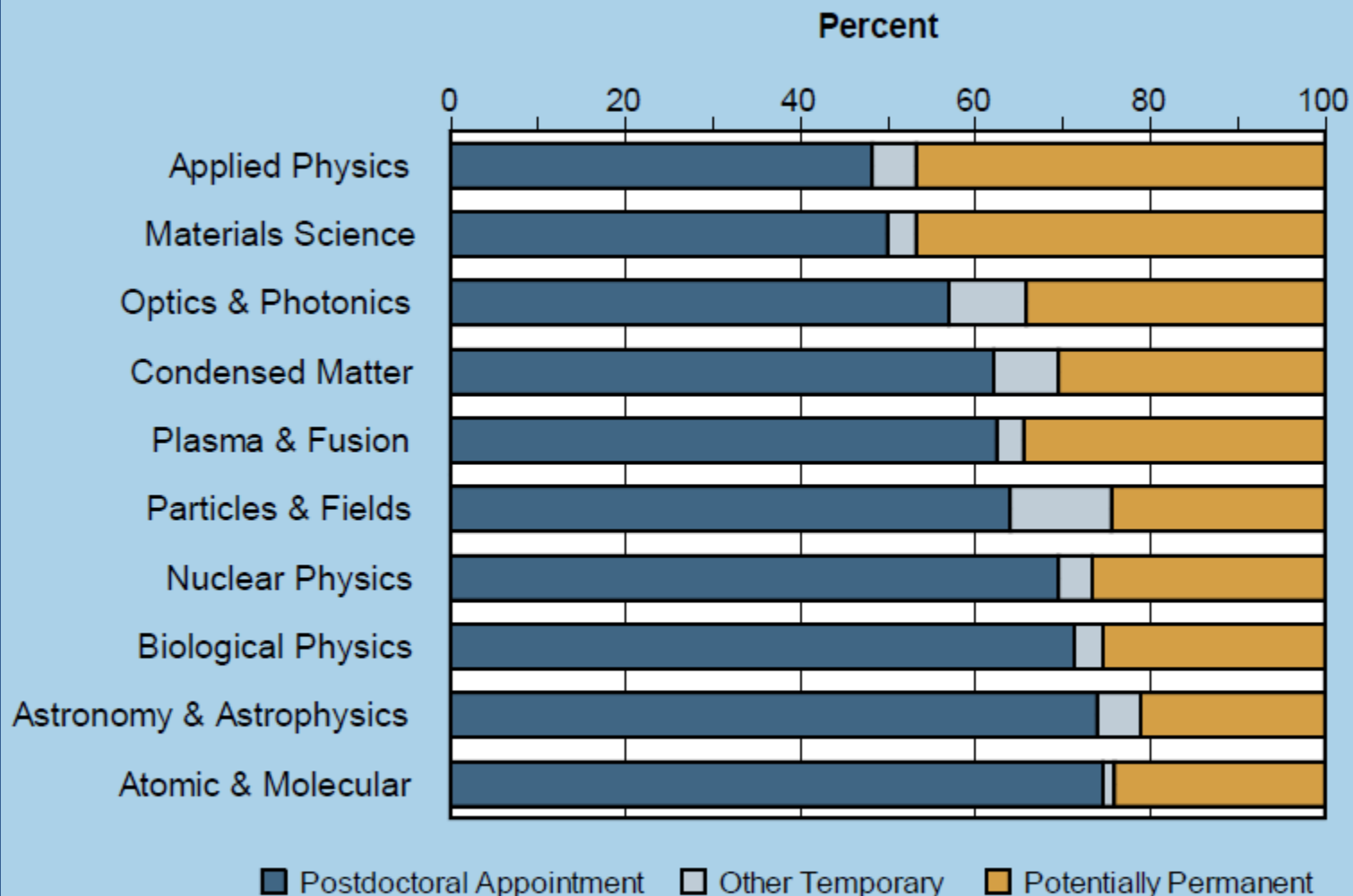


# Primary Types of Support for Physics Bachelor's Immediately Pursuing Graduate Study, Classes of 2009 & 2010 Combined



\*Does not include professional degree fields such as law and medicine.

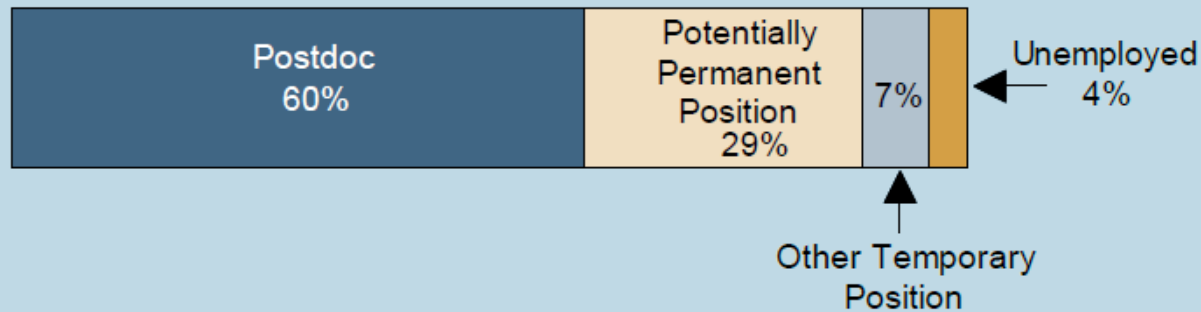
# Initial Employment of Physics and Astronomy PhDs by Subfield of Dissertation, Classes of 2009 & 2010 Combined.



Data only include U.S.-educated physics PhDs who remained in the U.S. after earning their degrees.

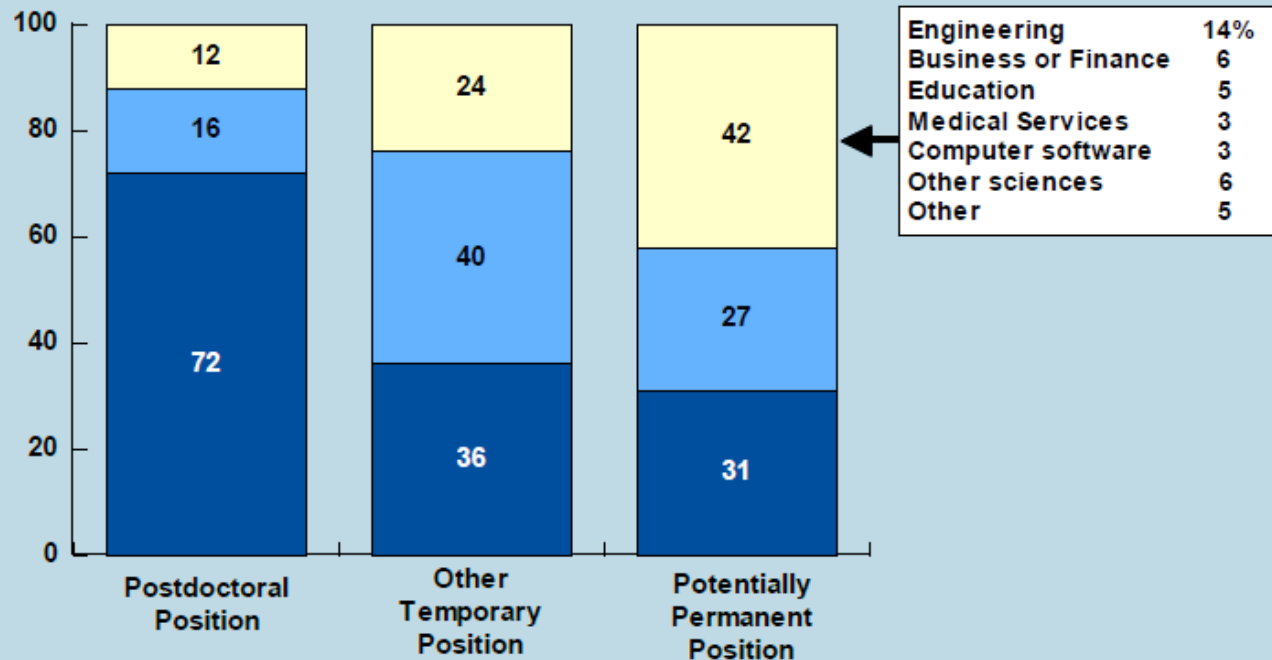
## Initial Employment of Physics PhDs, Classes of 2009 & 2010.

N=1,239



## Initial Employment of Physics PhDs, Classes of 2009 & 2010.

Percent



Engineering	14%
Business or Finance	6
Education	5
Medical Services	3
Computer software	3
Other sciences	6
Other	5

- Employment primarily in other fields
- Employment in physics - different subfield from dissertation
- Employment in physics - same subfield as dissertation



## Physics PhDs Starting Salaries, Classes of 2009 & 2010.

### Potentially Permanent Positions

**Private Sector**  
(N=91)

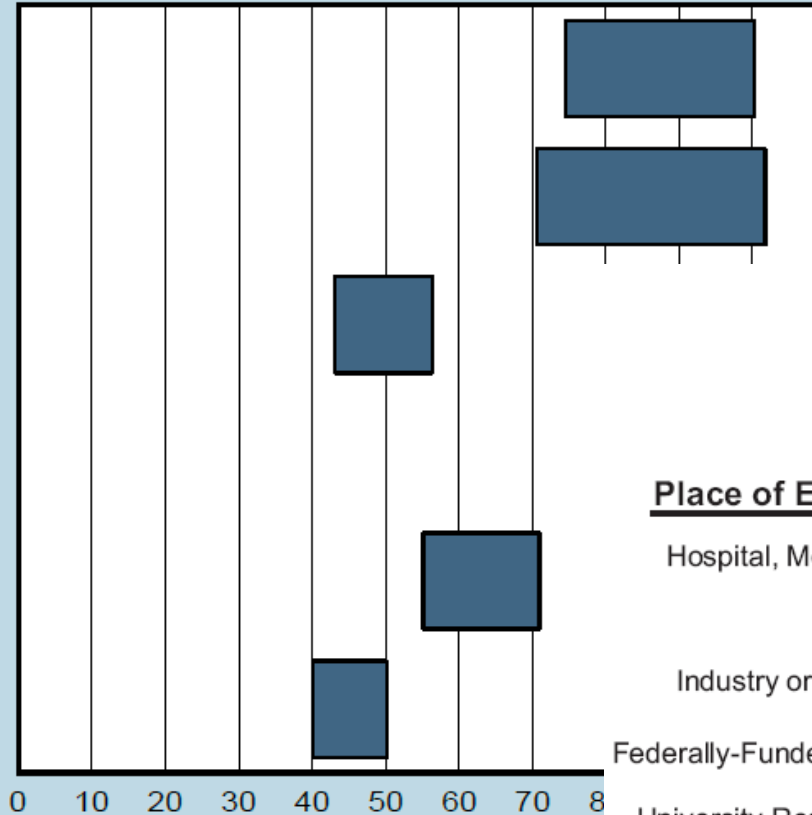
**Government Lab**  
(N=25)

**University & 4-Year College**  
(N=38)

### Postdocs

**Government Lab**  
(N=95)

**University & UARI**  
(N=371)

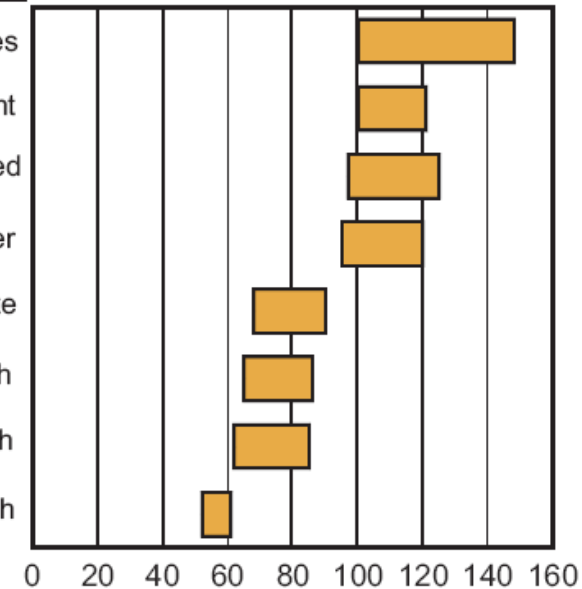


## PhD Salaries 10 Years Later

(2007 data)

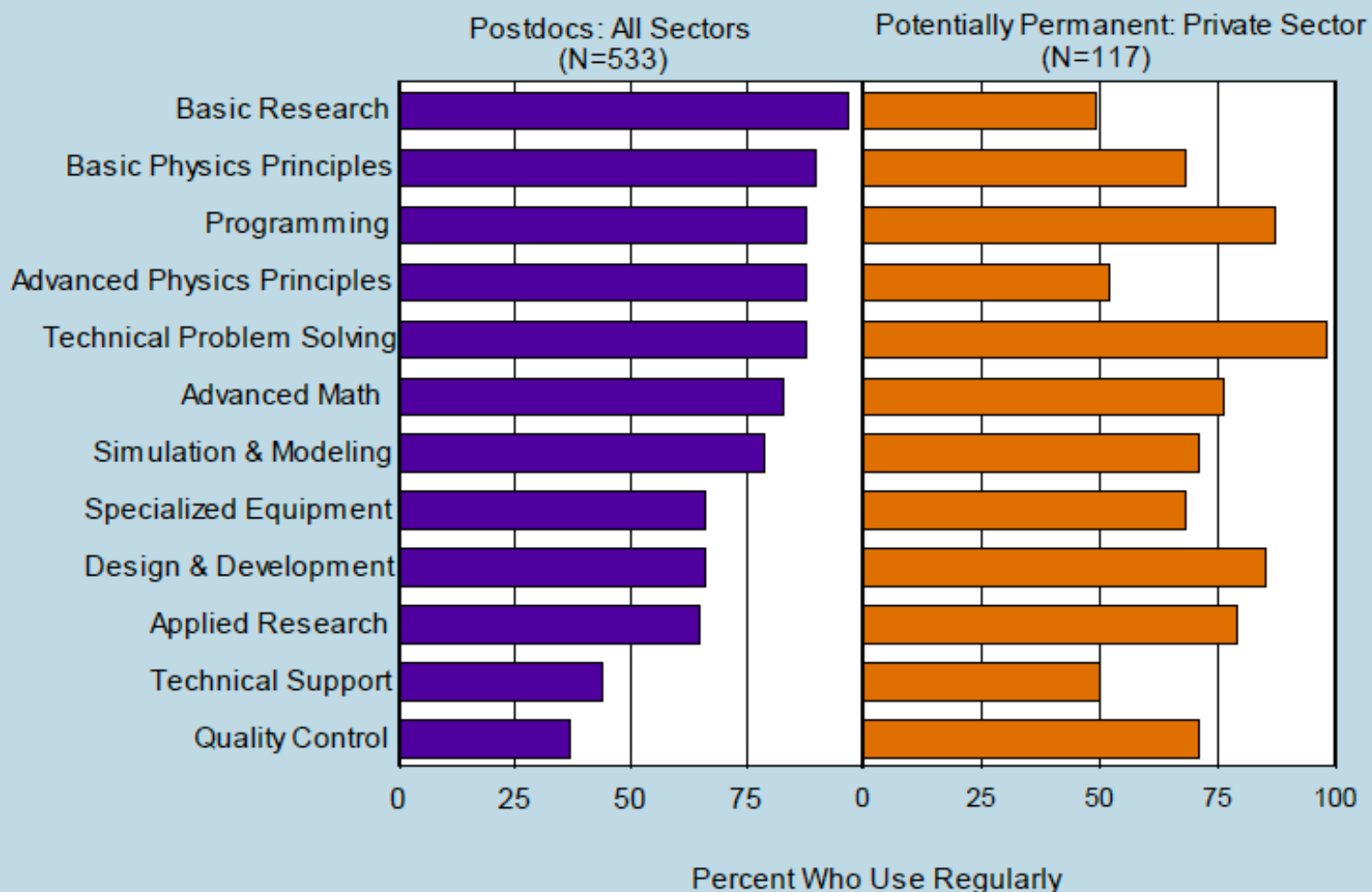
### Place of Employment

Hospital, Medical Services  
Government  
Industry or Self-Employed  
Federally-Funded R&D Center  
University Research Institute  
University, 11-12 month  
University, 9-10 month  
4-Year College, 9-10 month



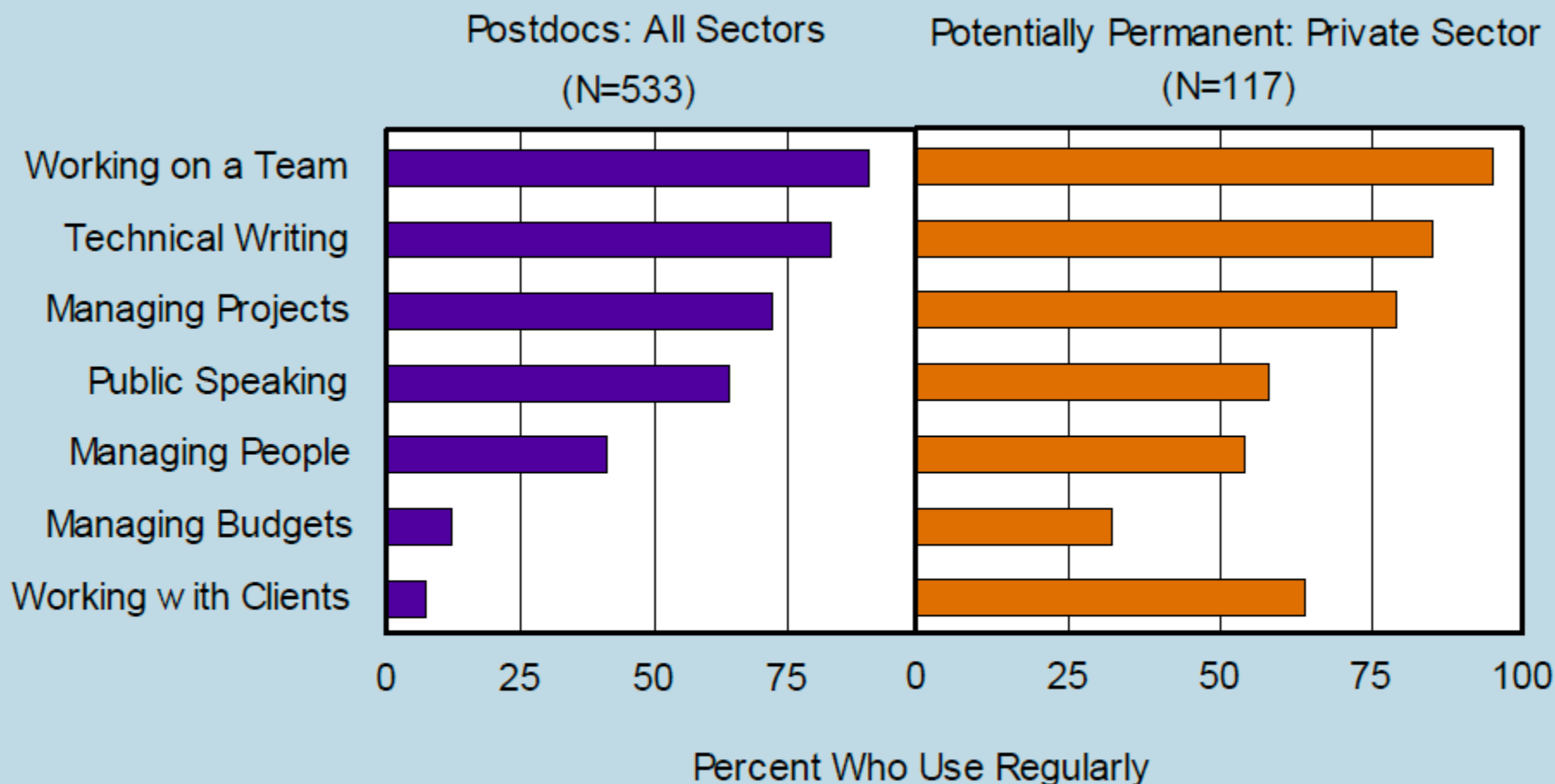
Typical Salaries in Thousands

## Scientific and Technical Knowledge Regularly Used by New Physics PhDs, Classes of 2009 & 2010 Combined



Percentages represent the proportion of physics PhDs who chose “daily”, “weekly” or “monthly” on a four-point scale that also included “never or rarely”. Data only include U.S.-educated physics PhDs who remained in the U.S. after earning their degrees.

## Interpersonal and Management Skills Regularly Used by New Physics PhDs, Classes of 2009 & 2010 Combined



Percentages represent the proportion of physics PhDs who chose “daily”, “weekly” or “monthly” on a four-point scale that also included “never or rarely”. Data only include U.S.-educated physics PhDs who remained in the U.S. after earning their degrees.

# Look for your self

<http://careers.aps.org/search/browse/>

Note: “advanced search” tab allows you to limit your search by degree earned.