

Nuclear Physics D.C. Day

Washington, D.C. March 30, 2020



Support Nuclear Physics Research

“Measured by its impact on society, the return on investments made by the U.S. in nuclear science research is large... If the past can be used as a guide, the isotopes, data, and technologies nuclear science will generate in the coming years will provide substantial new benefits to society...”

– DOE/NSF Nuclear Science Advisory Committee

U.S. investments in nuclear science produce extraordinary discoveries and technical advances that fuel our nation’s economy and the world’s most highly skilled, tech-savvy workforce. The reason is clear: America’s best and brightest minds are inspired by the quest to understand the universe and its fundamental particles and forces. DOE nuclear physics funding drives innovation in fields far removed from the original research, including modern medical imaging, drug design, cancer treatments, cargo inspection, criminal forensics, energy production and climate modeling.

DOE Office of Science supports three major nuclear physics facilities that enable scientists from across the country to pursue critical research:

- **The Thomas Jefferson National Accelerator Facility (Jefferson Lab)** in Virginia, where more than 1,600 scientists study the fundamental structure of protons, neutrons, and nuclei and the forces that bind them, building a comprehensive understanding of the atom’s nucleus.
- **The Relativistic Heavy Ion Collider (RHIC)** in New York, where 1,200 researchers recreate the super-hot conditions of the very early universe—250,000 times hotter than the center of the Sun—to study the building blocks of matter and their fundamental properties and forces.
- **The Facility for Rare Isotope Beams (FRIB)** under construction in Michigan, which will provide intense beams of rare isotopes to help over 1,500 scientists better understand the characteristics of atomic nuclei, their origin in the cosmos, and their potential applications.

In addition, DOE funding supports investigator-initiated scientific inquiry and other research facilities such as ATLAS at Argonne National Laboratory. NSF funding supports the NSCL user facility and investigator research at the user facilities.

The U.S. nuclear physics research community is grateful to Congress for its strong, continued support for this critical, yet sometimes underappreciated discipline.

Our Ask:

- 1) **Support “modest growth” funding for the DOE Nuclear Physics program consistent with the recommendations of the 2015 DOE/NSF Nuclear Science Advisory Committee Long Range Plan, which highlighted the value to the nation of nuclear science research, facility operations, and new initiatives, to maintain U.S. leadership in this vital field.**
- 2) **Support continued increases for the National Science Foundation to realize cutting-edge opportunities and support facilities and single investigators.**

	FY 19 Enacted	FY20 Enacted	FY21 Ask	Increase
Office of Science (SC)	\$6.6 B	\$7.0 B	\$7.4 B *	5.7%
Nuclear Physics	\$690 M	\$713 M	\$765 M +	5.2%
National Science Foundation	\$8.1 B	\$8.3 B	\$9.4 B #	13.2%

* Energy Sciences Coalition recommendation +NSAC Recommendation for enacted +CPI
+1.6% # Coalition for National Science Funding (CNSF) recommendation