

Sci-Ed Day 2015

Educational Resources for Accelerator Physics

Brookhaven National Laboratory Web Resources:

- Collider-Accelerator Department (C-AD) – <https://www.bnl.gov/cad/>
- Relativistic Heavy Ion Collider (RHIC) – <https://www.bnl.gov/rhic/rhic.asp>
- STAR Detector – <https://www.bnl.gov/rhic/STAR.asp>
- PHE*NIX Detector – <https://www.bnl.gov/rhic/PHENIX.asp>
- NASA Space Radiation Laboratory (NSRL) – <https://www.bnl.gov/nsrl/about.php>

BNL Accelerator Physics 2015 News:

- Newest Discoveries at RHIC – <https://www.bnl.gov/newsroom/news.php?a=25973>
- 2015 Updates for RHIC – <https://www.bnl.gov/newsroom/news.php?a=11606>
- RHIC Breaks the World Record for Highest Energy Collisions – <https://www.bnl.gov/newsroom/news.php?a=11715>

CERN Web Resources:

- Large Hadron Collider (LHC) – <http://home.web.cern.ch/topics/large-hadron-collider>
- How an Accelerator Works – <http://home.web.cern.ch/about/how-accelerator-works>
- How a Particle Detector Works – <http://home.web.cern.ch/about/how-detector-works>
- Engineering at CERN – <http://home.web.cern.ch/about/engineering>

LHC Accelerator Physics 2015 News:

- POPscience Event Highlights - <http://home.web.cern.ch/about/updates/2015/10/researchers-night-science-shops>
- Biodiversity at CERN – <http://home.web.cern.ch/about/updates/2015/09/birds-and-beams-biodiversity-cern>
- High School Researchers at CERN – <http://home.web.cern.ch/about/updates/2015/09/high-school-students-become-cern-physicists-week>

Shopping List to Make a Model LINAC:

- Track Pieces (3 per group)
<http://www.mcmaster.com/#1755k61/=zc3ldw>
- ½" Cube Neodymium Magnets (1 per group)
<http://www.kjmagnetics.com/products.asp?cat=11>
- ½" Steel Marbles (6 per group)
<http://www.mcmaster.com/#96455k56/=zc3klr>
- Plastic Cup (1 per group)
- Masking Tape (1 roll per group)

How to Build a Model LINAC

1. Tape down the three track pieces (two face-down and one face-up in the slot that the first two pieces make).
2. Tape down the magnet in the middle of the track.
3. Tape down the cup at one end of the track.
4. Put at least 2 marbles on the side of the magnet that is facing the cup.
5. Slowly roll a marble from the open end of the track toward the magnet.

Or Purchase a Model LINAC Kit:

- https://www.flinnsci.com/store/scripts/prodView.asp?i_dproduct=16588&noList=1

