Physics and Maths research internship

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During June, I travelled to Germany for an internship. This was part of one of my modules for physics. My internship was based just outside of the city of Hamburg with DESY. DESY, which is an abbreviated form of 'Deutsches Elektronen-Synchrotron' or 'German Electron Synchrotron' in English, is a research institute specialising in particle accelerators. There webpage can be found here: http://www.desy.de/ .Over the course of the month I was there, I mainly helped creating and modifying some code that analysed open data from CERN. During my first week there I was mainly familiarising myself with the Linux operating systems well as the programming language that is used to analyse particle collider data, ROOT, I son got to work. My main task specifically involved comparing data from two of the detectors, ATLAS (A Toroidal LHC ApparatuS) and CMS (Compact Muon Solenoid), and showing that both of them, had detected spikes in a specific range. My work wasn't ground breaking and a previous student at DESY had started this, but my supervisor needed to someone to recover the code and polish it for other summer interns that would arrive one month after me. During my trip I was taken to see HERA, a particle accelerator on site that had closed down in 2007. I was shown some of the components that were used in the detectors, and I got to walk part way around the actual accelerating ring. The ring has a circumference of 6.3km so I didn't walk all the way round but I did see some of the components that were used to accelerate particles. This internship was extremely valuable to me as I got first-hand experience in what it is like to work in a field I am extremely interested. DESY is respected institute in the field so I will look good on my CV. I would highly recommend going abroad this summer as it can provide student with extremely valuable experiences.

Here is a dipole magnet (A magnet with 2 poles) from the HERA tunnel

Here is a Quadrupole magnet (A magnet with our poles) from the HERA tunnel