Leah Conover

5th period

EC 5th 6 weeks

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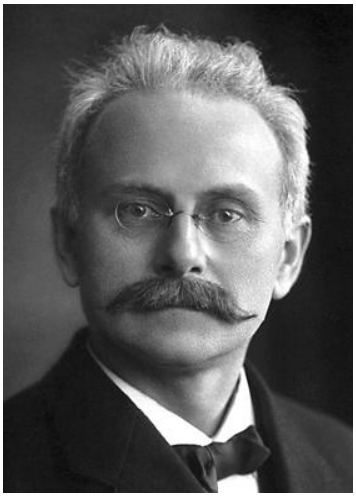
Noble Peace Prize Winner in Physics in 1919: Johannes Stark



Johannes Stark was a German physicist and recipient of the 1919 Physics Nobel Prize. He was born in Schickenhof, Bavaria, which was part of the Germany Empire, on April 15, 1874 to a land proprietor as a father. As a youth he spent his days studying at the Bayreuth Gymnasium secondary school. His college education took place at the University of Munich in 1892 to study in multiple different academic fields; physics, math, chemistry, and crystallography (study of crystals and their structure). He graduated from Munich University with a doctoral in 1897 and worked as an assistant to von Lommel at the University of Munich up until 1900. By 1920 he had already became a Professor at the Tchnishce Hochschule, University of Greifswald, and University of Wurzburg. During his career he published over 300 papers dealing with areas of electricity and similar topics. His greatest fame came from the Johannes Stark effect he discovered in 1913. In addition to receiving the Nobel Prize, Johannes Stark received the Vahlbruch Prize of the Gottingen Academy of Science in 1914, the Baumgartner Prize of the Vienna Academy of Sciences in 1920, and the Matteucci Medal of the

Rome Academy. Form 1933-1939, he became the president of the Physikalisch-Technische Reichsanstalt (Physics-Technical Institute) and the Deutsche Forschungsgemeinschaft (Germany Research Association). He eventually married Luise Uepler and had five children together. Even with his busy physics careers he found time for planting fruit trees. He died on June 21, 1957 in Traunstein, West Germany at the age of 83.

Johannes Stark's scientific works cover three different fields within physics, electric currents in gases, spectroscopic analysis, and chemical valency. Johannes Stark received the Nobel Prize in 1919, for his "discovery of the Doppler effect in canal rays and the splitting of spectral lines in electric fields" (Nobleprize.org). Johannes Stark was able to determine the velocity of the canal-ray particles. By discovering the Doppler Effect in the canal-ray he proved that canal-ray particles are luminous atoms or atomic ions. He used tubes containing hydrogen gas that passed through a strong electrical field, which broadened the lines in the hydrogen spectrum. The lines were then decomposed into several components with polarization characteristics. His discovery has become significant for modern research into the structure of atoms and has opened new fields for atomic ions. In receiving this award Johannes Stark was able to have his own private laboratory to further his physics career.

At the peak of Johannes Stark's life World War II occurred. He was related to the Deutsche Physik movement under Germany's Nazi regime. The movement's literal translation is German Physics or Aryan Physics. The members involved in this were opposed to Jewish physics of Albert Einstein and Werner Heisenberg. Johannes Stark attacked Einstein's theory of relativity, writing a paper in the SS newspaper. The movement itself was a nationalist move on the Nazi Party's part. Since anti-Semitism was a focal point for the Nazi Party's constitution, Nazis attempted to rid Germany of any and every Jew including those who were scientists. So

where does Johannes Stark play into this movement? Johannes Stark attempted to become the Fuhrer of German Physics during this movement and spread anti-Einstein propaganda throughout Germany. The Deutsche Physik movement impacted the modernization of the Germany nuclear program because Nazi's saw modern science as Jewish science, which was unacceptable to their regime. In 1947, Johannes Stark was sentenced to four years in prison to help rid Germany of Nazism after World War II.

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