



Max von Laue

1879 - 1960

Awarded the Nobel Prize for Physics in 1914

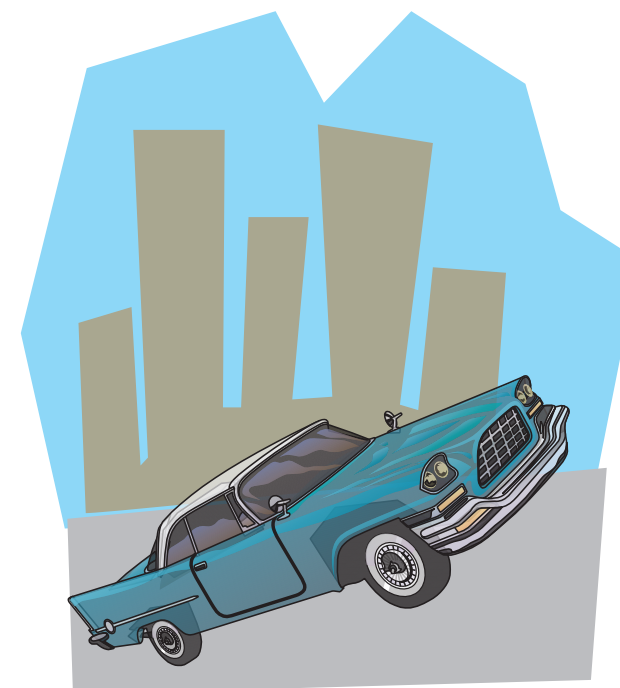
The famous theoretical physicist Max von Laue discovered X-ray diffraction and showed how it could be used to examine the inner structure of crystals. For this work he was awarded the Nobel Prize for physics in 1914.

If a crystal is illuminated with a beam of X-rays, the rays do not all pass through in a straight line; rather some are deflected and emerge at different angles. This deflection of X-rays is called diffraction. If a photographic plate is placed behind a crystal exposed to an X-ray beam, one can see on the photo a dark spot in the center and other spots, or *Laue spots*, which are made by deflected rays. From a careful study of the pattern of spots, a crystallographer can deduce the arrangement of the atoms within the crystal.

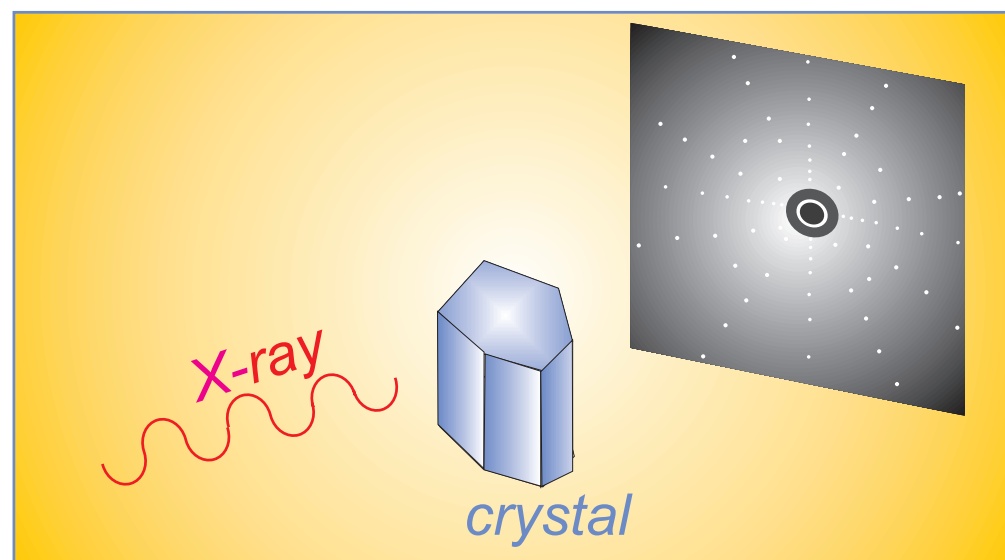
Max Theodor Felix von Laue was born in Pfaffendorf, Germany, in 1879, the son of an army official. Due to his father's profession, the family moved often during his childhood, and Max was educated at many different schools. He began to show particular interest in physics at the age of twelve.

He was educated at the universities of Strasbourg, Göttingen, and finally at Berlin where he gained his doctorate in 1903.

In 1909, Laue moved to the University of Munich, and it was there that he began his work on the nature of X-rays and crystal structure. Laue produced the theory of diffraction by a three dimensional grating, and his assistants Friedrich and Knipping performed the experiment.



He enjoyed fast cars and -alas- died as a result of a car-accident



He used the X-ray pattern to study crystals

Laue made many further additions to the theory of the diffraction of X-rays and electrons by crystals, this work being based on mathematical methods of which he was a polished master.

He was appointed Director of the Institute of Theoretical Physics in Berlin. He stayed there until 1943 when he became the Director of the Max Plank Institute in Göttingen.

Laue was one of only a few scientists who publicly tried to oppose the Nazis's dismissal of Einstein from his post because he was a Jew. He continued to write to Einstein in the United States throughout the war, doing so at great personal risk.

At the end of World War II, Laue and the other German physicists were interned in Britain. On returning to Germany in 1946 he helped to rebuild German science.

Laue married Magdalene Degen. They had two children, a son and a daughter. He enjoyed mountain climbing, sailing, listening to classical music and fast driving. In 1960, as he was hurrying to yet another scientific meeting at the age of eighty one, Laue's automobile collided with a motorcycle and soon after he died from his injuries.

S.E.