

Nobel Prize in Physics 1901



Wilhelm Conrad Röntgen

The Nobel Prize in Physics 1901 was awarded to Wilhelm Conrad Röntgen *"in recognition of the extraordinary services he has rendered by the discovery of the remarkable rays subsequently named after him"*.

RESEARCH INFORMATION:

The Royal Swedish Academy of Sciences received from Alfred Nobel the privilege of awarding two of the great Prizes which he founded in his will - the Prizes in those branches of Science which lay nearest his heart - those in Physics and Chemistry. Now that the Royal Academy of Sciences has received from its Committees their expert opinion on the suggestions sent in, as well as their own suggestions, it has made its decision, and as current President I am here to make it known.

The Academy awarded the Nobel Prize in Physics to Wilhelm Conrad Röntgen, Professor in the University of Munich, for the discovery with which his name is linked for all time: the discovery of the so-called Röntgen rays or, as he himself called them, X-rays. These are, as we know, a new form of energy and have received the name "rays" on account of their property of propagating themselves in straight lines as light does. The actual constitution of this radiation of energy is still unknown. Several of its characteristic

properties have, however, been discovered first by Röntgen himself and then by other physicists who have directed their researches into this field. And there is no doubt that much success will be gained in physical science when this strange energy form is sufficiently investigated and its wide field thoroughly explored. Let us remind ourselves of but one of the properties which have been found in Röntgen rays; that which is the basis of the extensive use of X-rays in medical practice. Many bodies, just as they allow light to pass through them in varying degrees, behave likewise with X-rays, but with the difference that some which are totally impenetrable to light can easily be penetrated by X-rays, while other bodies stop them completely. Thus, for example, metals are impenetrable to them; wood, leather, cardboard and other materials are penetrable and this is also the case with the muscular tissues of animal organisms. Now, when a foreign body impenetrable to X-rays, e.g. a bullet or a needle, has entered these tissues its location can be determined by illuminating the appropriate part of the body with X-rays and taking a shadowgraph of it on a photographic plate, whereupon the impenetrable body is immediately detected. The importance of this for practical surgery, and how many operations have been made possible and facilitated by it is well known to all. If we add that in many cases severe skin diseases, e.g. lupus, have been successfully treated with Röntgen rays, we can say at once that Röntgen's discovery has already brought so much benefit to mankind that to reward it with the Nobel Prize fulfils the intention of the testator to a very high degree.

For more details please visit:

http://www.nobelprize.org/nobel_prizes/physics/laureates/1901/press.html