Augustin-Jean Fresnel

ALSO LISTED IN

Physicists

FAMOUS AS

Physicist

NATIONALITY

French Famous French Men, American Famous American Men

BORN ON

10 May 1788 Famous 10th May Birthdays

ZODIAC SIGN

Taurus Taurus Men

BORN IN

Broglie (Eure)

DIED ON

14 July 1827

PLACE OF DEATH

Ville-d'Avray (Hauts-de-Seine)

MARRIED

No

EDUCATION

École Polytechnique

DISCOVERIES / INVENTIONS

Fresnel Lens

AWARDS:

1827 - Rumford Medal

Fresnel was a French physicist and is best remembered for his invention of compound lenses that transform the radiance of lighthouses and helped save many ships from crashing into the rocks at sea. He developed formulas to elucidate refraction, double refraction, reflection and polarized light and also proved that light was a collection of transverse waves. Sadly, like most ahead of time thinkers, Fresnel's genius and extraordinary work in the field of optical science, did not receive much recognition during his lifetime. Many of his thesis and works were printed by the Académie des Sciences, after several years of his passing. Fresnel remained undeterred by this lack of appreciation and at all times remained focused on his research and work. One can see a glimpse of his determination and love for science in a letter that he wrote to Thomas Young in 1824, "All the compliments that I have received from Arago, Laplace and Biot never gave me so much pleasure as the discovery of a theoretic truth, or the confirmation of a calculation by experiment". Thus, he had risen far above the vanity of glory and fame.

Career

- Fresnel began his research on optics in 1814. He conducted experiments and observations using his devices to study diffraction and interference fringes, which led him to believe that the 'wave theory of light' proposed by English physicist, Thomas Young, was right. EDIT
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- He presented his findings on the aberration of light to the French Academy of Sciences, in 1815; though appreciated, the paper was never published. EDIT
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- In the same year, he was appointmented as an engineer in Paris and spent most of his life there. EDIT
- He received prize and recognition from the Academie des Sciences at Paris for his memoir on diffraction, which he wrote in 1818. EDIT
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- He pioneered the construction of a unique kind of lens that replaced the use of mirrors in lighthouses and increased their functionality. EDIT
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  1817, Fresnel discovered circularly polarized light, which proved that light, in fact, was a transverse wave and not a longitudinal wave. EDIT

- Fresnel was appointed as the commissioner of lighthouses, in 1819 and by 1821 he was able to show via mathematical methods that polarization could be explained only if light was entirely transverse, with no longitudinal vibration whatsoever. EDIT
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- To honour his work in the field of innovative science, Fresnel was elected as a member of the Academie des Sciences in 1823.
- Later in 1825, he was granted the position of a foreign member to the Royal Society of London.
- For his outstanding contributions to science, he was honored with the Rumford Medal in 1827.

Major Works

- Memoir on the Diffraction of Light (1819)
- On the Action of Rays of Polarized Light upon Each Other (1819) EDIT