Igor Tamm

1895 - 1971

Awarded the Nobel Prize for Physics in 1958

The famous Russian physicist Igor Evgenievich Tamm is best known for his theoretical explanation of the origin of the Cherenkov radiation. But really his works covered various fields of physics: nuclear physics, elementary particles, solid-state physics and so on.

In about 1935, he and his colleague, Ilya Frank, concluded that although **objects can't travel faster than light in a vacuum, they can do so in other media**. Cherenkov radiation is emitted if charged particles pass the media faster than the speed of light ! For this research Tamm together with his Russian colleagues was awarded the 1958 Nobel Prize in Physics.

Igor Tamm was born in 1895 in Vladivostok when Russia was still ruled by the Tsar. His father was a civil engineer who worked on the electricity and sewage systems. When Tamm was six years old his family moved to Elizavetgrad, in the Ukraine.

He graduated from the local Gymnasium in 1913. Young Tamm dreamed of becoming a revolutionary, but his father disapproved . However only his mother was able to convince him to change his plans. She told him that his father's weak heart could not take it if something happened to him.

And so, in 1913, Tamm decided to leave Russia for a year and continue his studies in Edinburgh. After that he always spoke English with a Scottish accent.

At the time of the Russian revolution in 1917 Tamm was among those who actively opposed Tsarist power.

Only after the revolution and civil war did he retire from politics. He enrolled in Moscow University and headed for Odessa where he devoted himself exclusively to science under the direction of Mandelstam, later to be called the father of Russian physics.

Tamm led an expedition to search for treasure in the Pamirs

In 1923 Tamm was offered a teaching post at the Second Moscow University and later he was awarded a professorship at Moscow State University. He published his first scientific article when he was 29 years old. After that he published many interesting works. He studied the properties of electrons on the surface of a crystalline solid, and found the so called ***'Tamm surface levels'***. This discovery has had important applications, especially in devices containing semiconductors.

In 1934 Tamm predicted that the neutron, although an uncharged sub-atomic particle, would have a magnetic moment with a negative sign. This idea was not accepted at first, but it was later shown to be correct.

From 1934 until his death Tamm was the head of the Theoretical Department of the P.N. Lebedev Physical Institute in Moscow.

Tamm was a very kind person. He was always ready to help people who were in trouble. He was a 'chain smoker' and liked working at night time. Apart from physics, he was fond of mountaineering. Once he headed an expedition looking for the Tamberlaine Treasure in the Pamir mountains.

He risked his life more than once during the civil war. He showed particular bravery in his last years when he was critically ill and could breath only with the help of special equipment.

Tamm was married to Natalia Shuiskaya. They had a daughter and a son. The son also became a physicist and mountaineer.

S.E.

He actively opposed The Tsar in 1917