Titus Pankey

November 20, 1925 – September 20, 2003) was an American physicist and professor whose research specialties were magnetic susceptibility and cosmology, especially supernovas. He was the first recipient of a PhD in physics from Howard University, and was one of the first 10 black recipients of a PhD in physics in the United States. He has been cited as the first to suggest that type 1a supernovae are powered by nickel-56 decay.

Early life and military service

Titus Pankey, Jr., was born in 1925 in Hinton, West Virginia. He grew up between Hinton and Charlottesville, Virginia, where he also graduated from Jefferson High School with honors. In Hinton, he attended Lincoln School. After graduation from high school, he worked as a Pullman porter on the Chesapeake & Ohio Railway, and helped to fund his four sisters' college educations. He later worked in an electrophoresis lab at the University of Virginia Hospital in Charlottesville. He served in the U.S. Army during the Korean War and was discharged in 1954 after completing his tour of duty. While serving in the Army's 65th Combat Infantry Regiment, 3rd division, in Korea. Pankey earned two battle stars and the Combat Infantryman's Badge.

Education

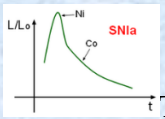
After completing his service, Pankey attended Howard University in Washington, D.C., as an undergraduate and graduated magna cum laude with a degree in physics.

Pankey subsequently received his master's and PhD degrees from Howard in physics, completing his doctorate in 1962. With the completion of his degree, Pankey became the first recipient of a physics PhD from Howard University. After receiving his degree, Titus worked in physics and cosmology in the Naval Research Laboratory where he retired in 1982. He also was an associate professor in the physics department at Howard University, teaching physics at the doctoral level. He had more than 30 papers published in physics journals and was the educator and publisher of a scientific newsletter, PBX Science.

His dissertation advisor was Herman Branson, and the title of Pankey's thesis was "Possible Thermonuclear Activities in Natural Terrestrial Minerals," submitted on 26 July 1961. Branson also advised, among others, the second Howard physics PhD holder, Arthur Thorpe, who received his degree two years after Pankey in 1964. Pankey's research was supported by the U.S. Geological Survey and Frank E. Senftle, and his advisory committee composed of Branson, Sohan Singh, Louis G. Swaby, and Stanton L. Wormley.[10] Wormley was then the acting dean of the graduate school at Howard.

In March 1958, he was one of sixteen Howard students elected to the Phi Beta Kappa honors society. In May 1958, he was elected to an associate membership to the Sigma Xi national science honors society.

Career



The radioactive decays of nickel-56 and cobalt-56, that produce a supernova visible light curve.

In his graduate thesis, Pankey investigated whether nuclear fusion in the earth's interior is a possible source of the earth's internal heat, specifically by measuring the magnetic susceptibility and iron content of rocks. While radiogenic heating in earth is now understood to be due to decay processes rather than fusion, Pankey's thesis is significant for including a suggestion that radioactive decay of nickel-56 is responsible for powering type 1a supernova light curves. Pankey speculated that the two stages of decay in the light curve are caused by radioactive nickel-56 rapidly decaying to cobalt-56 with a 6-day half-life followed by cobalt-56 decaying more slowly decaying to stable iron-56 with a 77-day half-life. This is the first example of the now-accepted theoretical explanation for type 1a supernova, and his thesis includes the earliest known example of a modern type 1a light curve. His hypothesis was not widely circulated and did not get immediate attention at the time, but would later be independently reinvented and developed in detail in a 1969 article by Stirling Colgate and Chester McKee. In 2014, the first direct observational evidence for the theory was gathered, confirming Pankey's initial hypothesis.

In 1957, while attending graduate school, Pankey began work at the United States Naval Research Laboratory as a research physicist and cosmologist. While at the Naval Research Laboratory, he worked with John E. Davey and published widely on material science and semi-conductor physics. The pair made significant contributions to molecular-beam epitaxy by demonstrating how to grow gallium arsenide films in vacuum chambers. The pair also submitted a patent for a method of forming gallium phosphide coatings in 1969. In 1977, Pankey and Richard E. Thomas submitted a patent for a controlled-porosity dispenser cathode.

After completing his doctorate in 1962, Pankey became an associate professor of physics at Howard University. He taught at Howard until 1979, when he suffered a brain injury during a robbery and assault at his home in Washington, D.C. After recovering from the assault, he continued to conduct physics research at his home in Stony Point. He was casually putting things in order to resume his scientific newsletter, at the time of his passing.

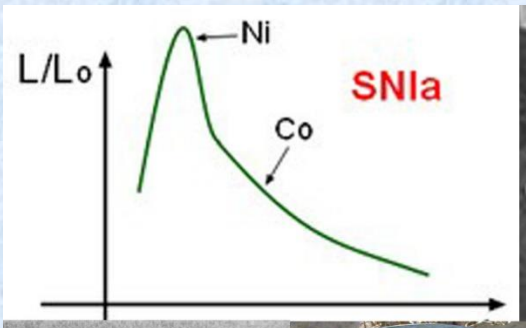
Personal life

Pankey was married to Anita-Rae' Smith-Pankey on June 25, 1959. She also received her Bachelor of Science from Howard University. After 17 years of marriage the couple divorced. They had five children. Around 1980, he left Washington, D.C., and moved back to the Charlottesville area where he lived until his passing.

Dr. Titus Pankey Jr.

We Salute You!

(Research references from Wikipedia)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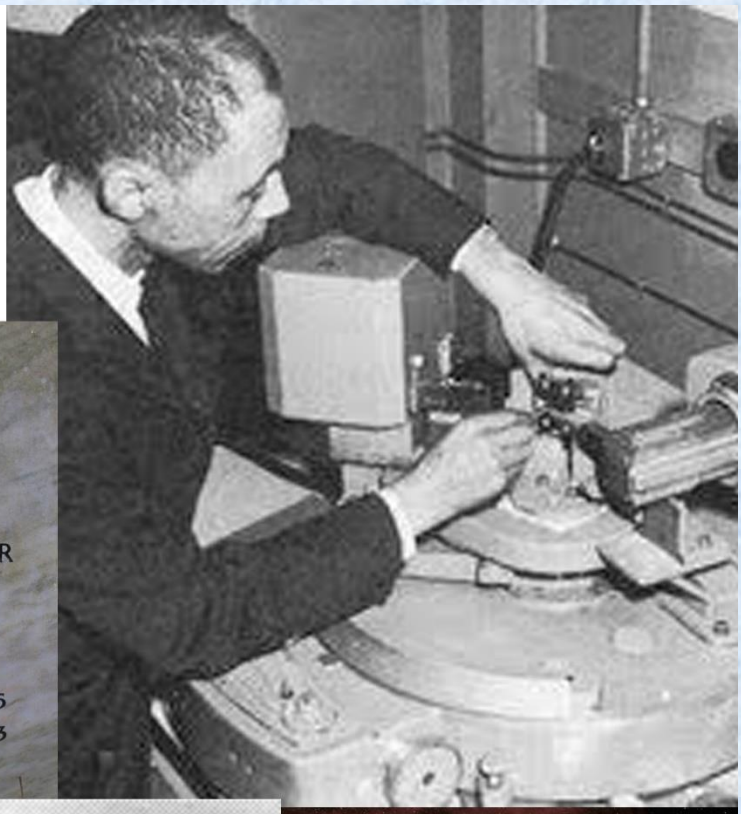

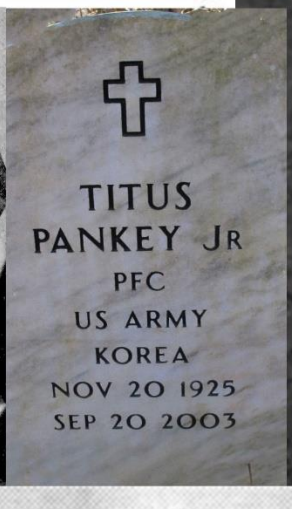
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