

## Carl A. Rouse, African-American Physicist, Dies at 87

Carl A. Rouse, the fifth African-American PhD physicist known for having developed a mathematical model of the interior of the sun, died on February 25<sup>th</sup> at his home in Princeton, NJ.

Growing up in Hazelton, Ohio, a neighborhood of Youngstown, Mr. Rouse became fascinated by physics. A gifted high school student and Golden Glove champion, he remained grateful throughout his life that he chose science over boxing. In 1944 Mr. Rouse was inducted into the Army Specialized Training Reserve (ASTR). After scoring the highest on the math, physics and chemistry tests, he was sent to New York University to complete the ASTR Civil Engineering Course, a program that trained electrical engineers for what he soon discovered was the Manhattan Project.

After being discharged from the army, Mr. Rouse studied physics and math at Case Institute of Technology where he was elected into Tau Beta Pi, the national engineering honor society, and Sigma Xi. At commencement he was awarded the Physics Prize for the student with the highest grades.

After earning his BS, Mr. Rouse was awarded an Institute Fellowship to study at Caltech. While there, he worked as a research assistant for Prof. Carl Anderson, Nobel Prize winner for the discovery of the positron. His thesis advisor was Prof. Eugene W. Cowan who worked on cloud chambers.

After receiving his PhD in 1956, Mr. Rouse went on to work at Lawrence Livermore Radiation Laboratory (Now Lawrence Livermore National Laboratory). At Lawrence Livermore he developed mathematical equations for describing changes to solid matter when it comes into contact with high temperatures and radiation. He edited a four volume series entitled, *Progress in High Temperature Physics and Chemistry*. While working on equations of state he discovered problems with the standard model of the sun. With this discovery, he set out to develop a mathematical (high-z) model of the sun whose predictive value could be measured through observations of solar radiation.

His astrophysical research took him to the Naval Research Laboratory on a National Science Foundation grant. After successfully analyzing solar atmospheric helium and calculating solar property tables, Mr. Rouse took a job at General Atomics where he analyzed reactors and worked on classified projects.

In the evenings, Mr. Rouse continued to work on his high-z model of the sun. He was awarded small grants to use the San Diego Supercomputer and General Atomics' powerful computer during off-hours. With these resources, he was able to make substantial progress. In addition, he regularly attended the triennial International Astronomical Union meetings where he developed relationships with international scientists engaged in similar research. Through his efforts many astrophysicists

have abandoned the standard model of the sun. Mr. Rouse died satisfied that his findings have become a starting point for new discoveries.

A beloved husband and father, Carl Rouse is survived by his wife, a son, two daughters, and six grandchildren. The National Society of Black Physicists and Caltech have created a fellowship in his honor.