# Two Spectroscopists Discover Doctors Prescribe Gas Around Jupiter Rest, Relaxation

**MEAT BALLS** 

Two University spectroscopists have discovered that the planet Jupiter is surrounded by a hydrogen gas sea at least 160 miles thick.

The new estimate is the result of experiments conducted with the world's largest absorption tube, which went into service here last year.

David H. Rank, professor of physics, and John V. Foltz, a NASA trainee and Ph.D. can
The estimate is based on a trained and Ph.D. can
didate in physics, conducted comparison of spectral lines of a known "planetary atmosphere" created in the labora-tory with the lines recorded in the labora-tory with the lines recorded in direct observation of Jupiter bottoms of the current issue of The Astronomical Society.

The observations were made the thickness of the hydrogen the thickness of the hydrogen the thickness of the hydrogen atmosphere surrounding Jupiter at 16 miles. Earlier estimates had placed the atmosphere at 3 miles thickness.

Fingerprints

Spectral lines of a known "planetary atmosphere" created in the labora-tory with the lines recorded in a temposphere at 3 miles thickness.

Spectral lines of the hydroge

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Thus, if the spectroscopist Thus, if the spectroscopist can create a planetary atmosphere in the laboratory whose spectrum matches the spectral readings from the planets, he can be secure in his knowledge that, with side effects eliminated, he has matched the planetary atmosphere. Moreplanetary atmosphere. More-over, the intensity of the lines provides a good estimate of the amount of the element or compound in the path of the

Because of its size, Penn State's new absorption tube, designed and constructed by Rank and his associate, T. A. Wiggins, professor of physics, has proved to be a unique instrument to recreate planetary. strument to recreate planetary atmospheres.

The absorption tube, which for these experiments was filled with hydrogen, has a length of 150 feet, and a light beam may be reflected back and forth through the tube as many as 104 times. After the beam has passed back and forth through the fube the required number of times, it is reflected into the spectrograph proper to measure both the wavelength and the intensity of the absorption tube was then compared to the JPL observation, as well as 1960 readings of Jupiter, to arrive at the figure of at least 160 miles of standard atmospheres.

The University stands sixth among colleges and universities in the nation in funds applied annually to engineering College Research. The University applies \$6.07 million to this research. The spectrum resulting from the known quantity of hydrogen gas in the absorption tube was then compared to the JPL observation, as well as 1960 readings of Jupiter, to arrive at the figure of at least 160 miles of standard atmosphere. The 160-mile hydrogen atmosphere is regarded as "preliminary" and experiments are continuing.

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# Engineering

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Foundation Gets Award

Foundation Gets Award

TheMilton S. Hershey Foundation has been chosen to receive the 1964 Benjamin Rush Award USE COLLEGIAN CLASSIFIEDS of the Dauphin County Medical

nan of the society's awards committee, said the foundation was chosen for the award because of its endowment of the Milton S. Hershey Medical Center of The Pennsylvania State University to

(AP) — Weak and weary Prime Minister Nehru went to bed yesterday under the care of docors concerned about his tendency toward

The doctors expressed hope for a quick recovery but they advised their 74-year-old patient, modern India's first and only chief of government, to take a complete rest and cancel all engagements for two weeks.
Nehru's illness have raised speculation about the possibility a successor might soon have to be found for him.

Accumulated strains of government, politics and diploma cy caught up with Nehru at the annual meeting of his ruling Congress party in Bhubaneswar, the capital of Orissa State, near the Bay of Bengal 800 miles southeast of New Delhi.

Low Ebb

Nehru looked listless in posture and facial expression and spoke to hardly anyone at a committee meeting Monday. He

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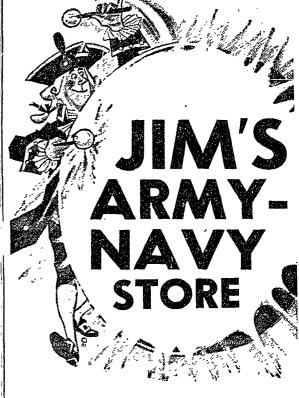




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