

Research Review

Lab Studies Atmosphere

By KAY MILLS

The mile-an-a-half long antenna north of campus near Scotia aids the University's Ionosphere Laboratory in its study of the upper atmosphere of the earth and other planets. Dr. Arthur H. Waynick, lab director and professor of electrical engineering, said this week.

The 240-foot high aerial transmits signals into the ionosphere from a transmitter at a field station about four miles from campus. The way the signals return shows characteristics they meet in the upper atmosphere, Waynick said.

He said this basic research, almost entirely supported by the federal government, is concerned with the three major divisions of the ionized regions around the earth, the so-called D, E and F regions.

A substance becomes ionized by removing an electron from a neutral particle, thus making it unbalanced and therefore charged. This charge, or ionization, permits long distance radio communica-

tions around the surface of the earth.

The three divisions of the ionosphere studied include regions from 80 to 1,000 kilometers above the earth, Waynick said.

Many other devices are used here to determine the basic characteristics of the ionosphere, he said. For example, another complicated radio antenna system helps in observing electron cloud structure, size and drift.

"The 'meteorology' of the upper atmosphere is a matter of great importance about which relatively little is known," Waynick said.

The National Aeronautics and Space Administration (NASA) supports a rocket study of the ionosphere by the lab, he said.

"A nosecone equipped with a transmitter will be blown away from a rocket in space; the nose will transmit data to the rocket which relays it to receiving sets on the ground."

Two unsuccessful attempts were made at Cape Canaveral, Fla., last summer to launch a satellite with a radio transmitter for Penn State and several other universities,

Waynick said.

Data about the ionosphere could be determined from the waves transmitted by the satellite and interpreted by specially trained observers.

Another launch attempt may be made this spring, he added.

"Astronomy by radio techniques will gain ground here with the installment by January of a 30-foot 'dish' or parabolic reflector. The dish will be at a new radio astronomy field station beyond the University farms.

"The reflector will concentrate parallel radio waves, or noise, from the sun and other bodies on an antenna in the center of the parabola."

The lab, established in 1948 with one student and one professor, has grown into a program involving nearly 90 people, Waynick said. The projects assist graduate students on their theses or dissertation work.

Eight professors in physics and electrical engineering comprise the academic staff. Four foreign consultants participate in activities of the laboratory, including supervision of students.

2 Party Heads Favor, 1 Opposes Assembly Meeting

Two party chairmen yesterday said they favor SGA President Dennis Foianini's decision to call a meeting of the eligible members of last year's assembly. The other party chairman expressed disapproval of the decision.

"The student government assembly is the body that should decide on the constitution," Dennis Eisman, Campus party chairman said, "Not any senate committee."

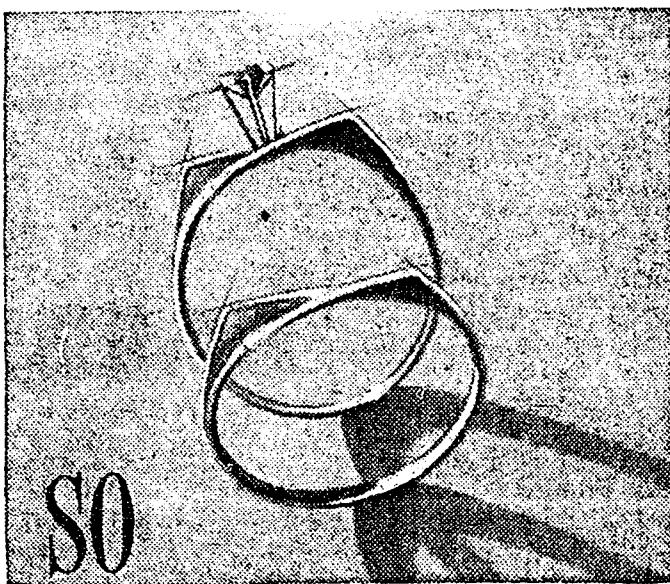
"It is the only existing body that comes close to being representative," Eisman added.

Elliot Newman, University party chairman, said under the circumstances brought about by recent senate committee decisions an assembly meeting is a good idea.

"The assembly is made up of the people experienced in dealing with the writing of a student government constitution," Newman, who is also a member of last year's assembly, said.

Albert Sharp, Liberal party chairman, disagreed with Eisman and Newman. Sharp said he was surprised to read of Foianini's decision.

"I think the assembly is no longer representative of the student body because there are so few members," he said.



SO
VERY
NEW

Truly TODAY in spirit . . .
fresh, sophisticated, beautiful . . .
yours from your
MASTER JEWELER

Orange Blossom

ENGAGEMENT and WEDDING RINGS

CRABTREES



Men's Debate Places in Tourney

The men's debating team won second place in the Wayne State Invitational Tournament held earlier this week in Detroit, Mich.

The team was represented at the tournament by Edgar Snyder, junior in liberal arts from Pittsburgh, and David Goodhart, senior in elementary education from Rutherford, N.J.

They argued the affirmative side of the question, "Resolved—labor organizations should be under the jurisdiction of anti-trust legislation."

Augustana, a small school located in southern Illinois, won the competition. More than 20 Midwestern schools, including most of the Big Ten schools, participated in the contest.

Stunt Night Cancelled

Stunt Night, which was to be held tomorrow night at the Hillel Foundation has been cancelled, Sandra Kitinsky, chairman of the event, said last night. No future date has been set.

APPLICATION BLANKS

for

EDITOR of

THE PENN STATE WOMAN

will be available

at

The HUB Desk

from November 10 to 13

Attention Frosh

FRATERNITY OPEN HOUSES

SATURDAY, NOV. 11

9:00 P.M. to 1:00 A.M.

ALL FRATERNITIES WILL BE OPEN TO THE MEN OF THE FRESHMAN CLASS THIS SATURDAY NIGHT

SUNDAY, NOV. 12

2:00 P.M. to 5:00 P.M.

ONLY THE FOLLOWING FRATERNITIES WILL BE OPEN TO THE MEN OF THE FRESHMAN CLASS THIS SUNDAY AFTERNOON

- | | | |
|------------------|------------------|---------------------|
| Alpha Epsilon Pi | Delta Tau Delta | Phi Kappa Theta |
| Alpha Gamma Rho | Delta Upsilon | Pi Kappa Alpha |
| Alpha Phi Alpha | Kappa Delta Rho | Pi Kappa Phi |
| Alpha Sigma Phi | Kappa Sigma | Sigma Alpha Epsilon |
| Alpha Tau Omega | Lambda Chi Alpha | Sigma Pi |
| Chi Phi | Phi Epsilon Pi | Sigma Tau Gamma |
| Delta Chi | Phi Kappa Sigma | Triangle |
| Delta Phi | Phi Kappa Psi | Zeta Beta Tau |
| | Phi Kappa Tau | |

If you have not received a rushing booklet you may pick one up at the office of Fraternity Affairs, 203-E HUB.

LA *Galleria*
233 East Beaver
Authentic Italian Cuisine

Dancing Tonight

featuring

The Collegians

9:30 - 12:30

Come for Dinner . . . and Stay to Dance

Everyone is Welcome . . . We have No Minimum Age