

New Aurora Mystery

Physics

Photographs made at the Lowell Observatory at Flagstaff, Ariz., of the spectrum of the Northern Lights at the time of the brilliant display on July 7 has opened up a new scientific mystery. For the first time, there appears, in addition to the various lines due to known elements, a very prominent line in the red region of the spectrum. As it has never before been photographed, Dr. V. M. Slipher, director of the observatory, who recorded it, is unable to state definitely what elements cause the reddish color. However, he suspects that it is due to some known gas in the atmosphere of the earth, possibly nitrogen.

On the photographs taken by Dr. Slipher there also appeared very prominently the so-called green auroral line, which was long a mystery. First photographed during visible displays of the northern lights, or aurora borealis, it was found at the Lowell Observatory in 1915 that it could be recorded by pointing a spectrographic camera at any part of the sky on any night even if cloudy. Dr. Slipher has also made such photographs of it on numerous occasions and under all sorts of sky conditions, always with success. He finds an unaccountable variation of its intensity shown even in a few minutes.

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New Telescopes—Cont'd

of almost perfect "seeing" may arise for a time. With the Ritchey telescope, the highest power could be put in place in a moment, and the fullest advantage taken of the exceptional conditions. Thus the telescope would always be used at its greatest efficiency. Another advantage is that the observing chamber could be underground. All sorts of instruments, like spectroscopes and plateholders could be kept at hand like the mirrors, ready to slide into place at a moment's notice.

So far no estimate has been made of the cost of such an instrument, but it would undoubtedly run well into millions and millions of dollars. Its cost might even approach the cost of a modern battleship! And how much more useful in the development of mankind, in the extension of human knowledge, would such an instrument be than a whole fleet of dreadnaughts!

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The average height of the human race is five feet five inches.

Radiovision in Homes This Fall

Radio

Radiovision and radiomovies will be received in thousands of homes during the coming winter. Thousands of amateurs and radio enthusiasts will build their own radiovision receivers and early this fall ready-made radiovisors will come on the market. Radiovisors will be the novel and really smart Christmas gift this year. These are the predictions of those behind the scenes in radio experimentation.

Although only three radio stations are regularly broadcasting radiovision or radiomovies, at least seven more are experimenting or testing and installing radio transmitters. The fall months will see this number increased rapidly.

At present most of the radiomovies are in pantomime only but increase in "picture quality" will come with experience and perfection of transmitting methods. The recent assignment by the Federal Radio Commission of new and wide bands of short waves for radiovision will spur on the development.

At present radiovision is in a state corresponding to the crystal set days of sound radio in 1921. But

the growth of radiovision will be faster than was the growth of sound radio. Thousands have learned to use tools and make their own radio sets. The vogue of home construction of radio sets has waned because it became unprofitable and uninteresting with the growth of the radio industry. Now the latent mechanical urge of the radio fan is likely to be liberated by radiovision and the construction of radiovisors is likely to become a new home occupation.

The well-organized radio set manufacturers, alert for new things to sell, are also expected to place de luxe radiovisors on the market in a remarkably short time this fall.

In the early days of radiovision only the expert amateurs and set builders are likely to obtain consistent and satisfactory results because of the fact that most of the radiovision broadcasts are now on wave lengths shorter than the usual music and speech broadcasts. Their pioneering, however, will make the day of radiovision in the ordinary parlor come sooner.

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Radiovision Programs

Radio

3XK, Washington, D. C., Jenkins Laboratories, 46.7 meters, 6420 kilocycles. 48 lines per picture. 15 pictures per second. Monday, Wednesday and Friday, 8 to 9 p. m. Eastern Standard Time. Radiomovies.

WGY, Schenectady, N. Y., General Electric Co., 380 meters, 790 kilocycles. 24 lines per picture. 20 pictures per second. Tuesday, Thursday and Friday, 1:30 to 2:00 p. m. Eastern Daylight Time. Tuesday, 11:30 p. m. to 12 midnight. Sunday, 10:15 to 10:30 p. m. Sunday and Friday transmission is simultaneously on 21.96 meters or 13660 kilocycles. Thursday and Tuesday transmission is simultaneously on 31.4 meters or 9550 kilocycles.

WRNY, New York City. Experimenter Publishing Co. 326 meters, 919 kilocycles. 36 lines per picture. 10 pictures per second. To be on regular schedule shortly.

2XAL, New York City. Short wave station of WRNY to broadcast same programs simultaneously on 30.91 meters, 9700 kilocycles.

KDKA, short wave transmitter,

Pittsburgh, Pa. Westinghouse Electric and Manufacturing Co. 62.5 meters, 4798 kilocycles. 60 lines per picture. 16 pictures per second. Irregular broadcasts for experimental purposes.

1XAY, Lexington, Mass. Donald R. Laffin. 51 to 62 meters. 4700 to 4900 kilocycles. 48 lines per picture. 15 pictures per second. Nightly tests without regular schedule.

4XA, Memphis, Tenn. Wrec, Inc. 125 to 120 meters. 2400 to 2500 kilocycles. 24 lines per picture. 15 pictures per second. 5000 watts power. Irregular experimental schedule.

9XAA, short wave station of WCFL, Chicago, Ill. Chicago Federation of Labor. 6215 meters. 4800 kilocycles. 48 lines per picture. 15 pictures per second. Monday, Tuesday, Wednesday, Thursday and Friday, 10 to 11 a. m. Broadcasting only frequency chart now but will broadcast movies when equipment is ready.

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