

news

From BELL TELEPHONE LABORATORIES, 463 West Street, New York 14, CHelsea 3-1000

For immediate release

5-23-65

NEWLY DISCOVERED RADIO RADIATION MAY PROVIDE A CLUE TO THE ORIGIN OF THE UNIVERSE

Evidence that may support a new cosmological theory of the universe recently proposed by Princeton University has been observed at Bell Telephone Laboratories. The evidence was found during a series of precision measurements of radio astronomical sources employing the horn reflector antenna used for the Telstar and Echo experiments.

After carefully measuring and accounting for all the known sources of noise radiation from the earth atmosphere and the galaxy, as well as from the antenna and associated receiving equipment, Bell Laboratories scientists Arno Penzias and Robert W. Wilson found a residual amount of noise radiation which they could not explain.

On consultation with colleagues in the radio astronomy field, they learned of the new theory proposed by Princeton physicists R. H. Dicke, P. J. Peebles, P. G. Roll and D. T. Wilkinson. One consequence of this theory is that there should be an observed radiation from the universe of the same order of magnitude as that observed at Bell Laboratories.

The Princeton work is based upon a theory that the universe is expanding from a high-temperature collapsed state. The energetic thermal radiation resulting from the high temperature has been cooled by the expansion of the universe to a tiny fraction of its original temperature and is believed to be the source of the effect observed at Bell Laboratories.

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