

verse weather conditions.

Groups working in the relatively new field of radio astronomy, as listed by Mr. Hagen, include:

In the United States—the National Bureau of Standards, the Naval Research Laboratory and Cornell University.

In Canada—the National Research Council.

In England—the Operational Research Group of the Ministry of Supply, the Admiralty Signal Establishment, Cambridge University and the National Physical Laboratory.

ASTRONOMY

Two-Star System Found

► THE third most massive system of double stars known has been found by Dr. Joseph A. Pearce of the Dominion Astrophysical Observatory, Victoria, British Columbia, Canada.

The two stars that revolve around each other are about 34 and 28 times as massive as the sun, Dr. Pearce reported to members of the American Astronomical Society meeting at Yale University in New Haven, Conn.

Extremely hot, these stars have surface temperatures of about 36,000 degrees Centigrade study of their found-out light shows. In intrinsic brightness, each is roughly 40,000 times as bright as the sun.

This double star, known to astronomers simply as HD215835, is nearly 7,000 light years from the earth, or over 41 million billion miles away. It is part of a cluster of stars.

The two stars race around each other at a speed of about 125 miles per second, whereas the earth goes around the sun at only 18 miles per second. Once each two days 2½ hours, they completely revolve around each other.

ASTRONOMY

Radar Spots Fast Meteors

► FAST-MOVING meteors streaking through the earth's atmosphere are more likely than slow ones to be detected by low-frequency radar, astronomers and physicists of Harvard Observatory have found.

William Liller of Harvard Observatory reported at the American Astronomical Society meeting at Yale University in New Haven, Conn., on his statistical analysis of 160,000 meteor bursts recorded during the last part of 1946 and most of 1947 by J. A. Pierce, Cruft Laboratory, Harvard University, with a nondirectional, 3.5 megacycle transmitter. The study was made in conjunction with the Harvard photographic meteor program sponsored by the Bureau of Ordnance, Department of the Navy.

Fastest-moving meteors are known to be

In Australia—the Council for Scientific and Industrial Research.

In France—Ecole Normale Superieure at Paris, and the Institut de Astrophysique de Paris.

Research is also being conducted in Russia as occasional reports are received from that country.

Dr. Ralph E. Williamson of David Dunlap Observatory, University of Toronto, Canada, also took part in this symposium on micro-wave astronomy. His report dealt with radio emission from the sun.

Science News Letter, January 8, 1949



PRESIDENT-ELECT OF AAAS—
Dr. Roger Adams, head of the department of chemistry at the University of Illinois, will become president in 1950 of the American Association for the Advancement of Science. He will succeed Dr. Elvin Stakman.

has faded, the electrified trail of the meteor may reflect radio waves of certain frequencies. Early study of meteors by radar, especially in England, employed short-wave radio of such frequencies as 72.4 megacycles; the Harvard observations are with radio waves over 20 times as long.

These meteors are observed at altitudes near and above 60 miles, about the same height as the day-time "radio roof." This radio roof at certain times of the day prevented accurate measurements of the meteor frequencies by the Cruft Laboratory equipment, but did not prevent observation of parts of some of the best-known meteor showers, such as the Perseids in August, the Leonids in November, and the Geminids in December.

Visual observations long ago showed that fast-moving meteors leave bright trains in the sky more frequently than do the slower ones. It seems reasonable to assume that by the same mechanism these same meteors give stronger radio reflections.

Furthermore, the fast-moving meteors appear at greater heights where they can produce ionized tracks which endure longer and where the tracks are able to expand to the large size necessary to reflect radio waves of a frequency of 3.5 megacycles and still have an ion density large enough to reflect these waves.

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The most destructive animal to cattle, sheep, game animals, horses, swine and poultry in the United States is the *coyote*; more damage is done by the dog-like coyotes each year than by all other predatory animals put together.