

MATHEMATICS

Chairman: MERRILL E. SHANKS, Purdue University
JOHN YARNELLE, Hanover College, was elected chairman for 1962

No papers or abstracts received.

PHYSICS

Chairman: HOWARD BLACK, Indiana State College
R. T. DUFFORD, Evansville College, was elected chairman for 1962

ABSTRACTS

A Gaseous Atomic Beam Light Source.¹ R. W. STANLEY, Purdue University.—It has recently become possible to observe the light emitted from atoms of a permanent gas which are traveling nearly perpendicular to the line of sight. A beam of neutral atoms, moving through a highly evacuated region, is bombarded with electrons from an electron gun. As a result of the electron bombardment some of the gaseous atoms are excited to higher energy states and subsequently emit optical radiation. The resulting spectrum may be quite different from that observed in an ordinary light source. One important property of the emitted light is that it is highly monochromatic. The gaseous atomic beam apparatus will be described and some recent results will be given.

Machine Literature Searching. H. B. THOMPSON, General Electric Company, Cincinnati 15, Ohio.—The need for a more rapid and discriminating method of locating literature is apparent to those who have made any appreciable state-of-the-art search in recent times. Manual coordinate indexing came into use in the '50's to meet this need. General Electric's Flight Propulsion Division at Cincinnati established such a system in 1953 and converted its manual system to an IBM 704 computer in 1958. Several other firms have made similar moves to make their literature handling effective. With such a system, the searcher obtains in about ½ hr. of machine time, all the references in the particular collection that have been indexed as dealing with the combination of subjects desired. Choices "ors," and negations (but not relationships), can also be used for selection with proper programming. Many are trying to retain the context or usage of the words and in certain cases with appreciable success. No system thus far developed satisfies all desires, but all help greatly in establishing the state-of-the-art in a given field quickly and, thus, in reducing duplication of effort.

Beta-Gamma Directional Correlation in Eu^{154} . K. S. R. SASTRY, Indiana University.—The energy dependence of the β - γ directional correlation between the 1.86 Mev outer β -ray group of Eu^{154} and the 123-kev cascade gamma-ray of the daughter Gd^{154} has been measured with a shaped magnetic field β - γ coincidence spectrometer. The correlation coefficient, ϵ , measured to an accuracy of about 5%, is negative and varies from -0.11

1. This research was supported in part by a grant from the National Science Foundation.