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Departure from Hooke's Law in the Torsion of Rods

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seen at all angles and consequently appearing as ellipses. A very remarkable oval is seen at right ascension 20 hours 51 minutes, declination plus 45. This has a major axis of 20 minutes pointing to position angle 350 degrees, and a minor axis of 12 minutes. It is very certain that the object described is the ring nebula."

DRAKE MUNICIPAL OBSERVATORY,
DES MOINES, IOWA.

THE PHOTOGRAPHIC ACTION OF IRRADIATED COD-LIVER OIL

JAY W. WOODROW AND G. M. WISSINK

We have previously reported the results of experiments on the photographic action of irradiated oils. This paper gives the results obtained with various arrangements of the screens and the receptacles for the irradiated cod-liver oil.

IOWA STATE COLLEGE,
AMES, IOWA.

ON THE DYNAMICS OF A SPHERICALLY SYMMETRIC MOLECULE

J. V. ATANASOFF

An attempt is made to postulate a molecular type which bears some relationship to the known facts of monoatomic molecular structure, yet which is simple enough to allow its kinetic theory to be worked out. The molecule chosen consists of a positive nucleus, surrounded by a negatively charged spherical shell. Developments of the distance-force relationship, and of an equation of state are given.

IOWA STATE COLLEGE,
AMES, IOWA.

DEPARTURE FROM HOOKE'S LAW IN THE TORSION OF RODS

GEORGE SINGER AND EDWIN STEELE

In an experimental study of the behavior of an iron rod fixed at one end and subjected to torsion at the other it was found that there is a marked tendency of the rod to remain in the state of

strain which it has acquired. When the torque was raised to a relatively high value and then reduced to zero the strain tended to remain. It was found to disappear in about twenty-four hours however. The residual strain in the rod is evidently the result of the reluctance of the metal to change its molecular arrangement.

Just before the elastic limit of the rod was reached the residual strain reduced to a minimum and then increased very rapidly as the elastic limit was attained. The existence of this minimum is suggestive of crystallization and further investigations are under way for the study of this lag in steel and brass rods.

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PLAN FOR REORGANIZATION OF SECONDARY SCHOOL PHYSICS MATERIAL

RUSSEL D. MILLER

There is a growing demand for a revision of secondary school curricula made on the basis of present day aims of education. The objectives that are almost universally accepted and upon which this revision should be based are as follows: to assist in the production and maintenance of health; to develop and maintain a high standard of social and civic relationships; to make one's chosen vocation more enjoyable and successful; to assist in the proper use of leisure time.

In the reorganization, outlined in this paper, an attempt is being made to select the material which will contribute, directly or indirectly, to at least one of the above major objectives, and to exclude any and all material that cannot be justified on this basis.

THE EFFECT OF ULTRAVIOLET LIGHT ON THE DIELECTRIC PROPERTIES OF CRYSTALS

ALBERT A. AARDAL

Measurements have been made on the dielectric properties of some of the natural crystals, and it has been shown that the values of the constants are changed upon exposure to ultraviolet light. The most important of these properties are dielectric constant, phase angle, and resistance, all of which show this variation when exposed to the short wave-lengths.

IOWA STATE COLLEGE,
AMES, IOWA.