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Photometric Measurements of the Reflection Factor of Cotton and Linen Household Materials

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THE RELATION BETWEEN THE PHOTOELECTRIC
AND THE PHOTOGRAPHIC EFFECT IN SILVER
BROMIDE

L. W. BUTLER

* Toy, Edgerton, and Vick have recently shown that the photoelectric effect in silver bromide is due to ultraviolet light of wavelength less than $\lambda 2800\text{\AA}$. Since the photographic effect extends to $\lambda 5000\text{\AA}$ they concluded that there is no relation between the photoelectric and the photographic effects in silver bromide.

Before this article appeared, the writer had obtained approximately the same result with silver bromide formed by fuming the surface of a silver plate. Our data was obtained by the use of more sensitive apparatus than that employed by the above named investigators. In order to prevent deterioration of the silver bromide the plate was kept in complete darkness until the time of exposure by which measurements were made.

IOWA STATE COLLEGE,
AMES, IOWA.

BALL AND JET IN A VACUUM

L. B. SPINNEY

A report on an experimental and theoretical investigation of the equilibrium conditions for the case of a ball balanced on a jet of water.

IOWA STATE COLLEGE,
AMES, IOWA.

PHOTOMETRIC MEASUREMENTS OF THE REFLEC-
TION FACTOR OF COTTON AND LINEN
HOUSEHOLD MATERIALS

EARL C. McCRACKEN

By means of a specially constructed reflectometer measurements have been made on the variation of the reflection factor with different methods of laundering of both cotton and linen household materials. Results show that the method of washing has a decided effect upon the permanency of the whiteness as indicated by the total reflection factor. It was found that special

* Phil. Mag., Vol. 3, p. 482, Feb., 1927.

precautions had to be observed in the taking of this particular type of data.

IOWA STATE COLLEGE,
AMES, IOWA.

CORRELATION OF NEATNESS AND SCHOLARSHIP IN PHYSICS

GEORGE E. DAVIS

353 reports, written by 33 students in three laboratory sections of junior physics, were graded as to neatness. The average neatness grade and the term laboratory grade for each student were used in a correlation study. For each of the three laboratory sections the correlation coefficient was positive. The coefficient for all 33 students was $+0.27$.

Although the number of students graded was small, we may conclude that in general we may expect neatness and high grades in physics to be associated. Exceptions to the rule and a low correlation coefficient both definitely indicate that neatness of written reports can not alone be relied upon as an index of scholarship in physics.

THERMO-ELECTRIC EFFECT IN SINGLE CRYSTAL ZINC

ERNEST G. LINDER

Data are presented on the thermal e.m.f. against copper of six single crystal wires of zinc, of which the orientations of the main crystallographic axis with respect to the wire axis, range from 11.4° to 90° . The temperature interval is from -182° to 475° C.

From the data are calculated the thermo-electric power, Peltier coefficient, and difference of the Thomson coefficients for Zn against Zn. The data also provide a test for the Voigt-Thomson law for the variation of the thermo-electric power with crystal orientation. The law is verified for the low temperatures, but the deviations at the high temperatures ($300^\circ - 400^\circ$) are greater than the experimental errors are thought to be.

The thermo-electric powers of liquid zinc against solid single crystal zinc of different orientations, and against polycrystalline zinc are given, the value $-7.89/\text{deg.}$ for $(e_1 - e_s)$ for polycrystalline zinc having been found.