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A Study of the Effectiveness of Mathematical Versus Physical Solutions in Problem Solving in College Physics

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Coöperative Physics Test. Approximately 130 matched pairs of students were studied consisting of various levels of ability.

DEPARTMENT OF PHYSICS,
STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

A STUDY OF THE EFFECTIVENESS OF MATHEMATI-
CAL VERSUS PHYSICAL SOLUTIONS IN PROBLEM
SOLVING IN COLLEGE PHYSICS

C. J. LAPP

An experiment has been conducted in an attempt to determine if there is a significant difference between the achievements of two matched groups of students each having differential treatment with respect to problem solving as measured by a standard final examination. The Physical Solution method gave unquestionably statistically significant results for the upper one-third of the groups. There was no significant difference in the low group which fact tended to hide a small but significant difference from the whole group.

DEPARTMENT OF PHYSICS,
STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

QUANTITATIVE SPECTROGRAPHIC ANALYSIS OF
PLANT TISSUE

L. T. EARLS

Quantitative spectrographic analysis of corn leaf as a typical plant tissue has been carried out for several elements (Mg, Ca, Si), using a 1100-volt AC arc between carbon electrodes as a source. Tests have been made on various internal standards excitation conditions, etc., attempting to increase accuracy and reproducibility. Data and variations typical of the present status of the investigation are presented.

DEPARTMENT OF PHYSICS,
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AMES, IOWA.