

phenomena of the weight field of force of the earth, and is, in general, a summary of the author's earlier investigations in this field.

The earth's weight field of force is defined by the acceleration relative to the solid part of the earth which a body resting near the surface of the earth sustains, due to gravitation of the earth and the heavenly bodies, and due to the earth's motion in the absolute system.

The first three introductory sections of the monograph deal with the laws of relative motion and the effects of a moving atmosphere. In the fourth section it is shown that the tidal effects and the results of precession and nutation are negligible as compared with the gravitational attraction of the earth and the centrifugal force due to the earth's rotation. This main part of the weight field is at rest with respect to the solid part of the earth, and it possesses a potential. In the next two sections the moments actuating the Eötvös torsion balances are derived in geometrical and analytical treatment. The seventh section and the appendix are devoted to some dynamical phenomena of the weight field which lead to differential equations that can be easily integrated.

In view of the recent revival, due to the national defense program, of interest in geophysics and ballistics, this monograph may prove useful in putting some special investigations, which are capable of application in these fields, in a more available form.

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Introduction to Abstract Algebra. By C. C. MacDuffee. New York, Wiley, 1940. 7+303 pp. \$4.00.

The rapid advances in algebra within the last few years have been largely due to an exploitation of the powerful methods of abstract algebra. Accordingly there has been a tremendous increase in the interest in this subject, so that most colleges and universities offer at least one course in abstract algebra. However, students with only an undergraduate course in the theory of equations as a background in algebra frequently have considerable difficulty with the available texts—not so much in reading the proofs as in grasping the significance of the abstract theories. The present book was written primarily as a text for beginning graduate students and is designed to fill the gap between the usual text in the theory of equations and the more advanced texts on algebra. It should prove to be a valuable addition to the growing list of texts on abstract algebra.

The material is organized in such a way that concrete instances of