

theoretical discussions, and a maximum of application. It is plainly a text for students in technical courses, while its use in a more general course would hardly be recommended.

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### NOTES.

THE July number (volume 11, number 3) of the *Transactions of the American Mathematical Society* contains the following papers: "Die natürlichen Gleichungen der analytischen Curven in euclidischem Raume," by E. STUDY; "Two-dimensional chains and the associated collineations," by J. W. YOUNG; "Groups of rational transformations in a general field," by L. I. NEIKIRK; "On osculating element-bands associated with loci of surface-elements," by P. F. SMITH; "Fields of extremals in space," by G. A. BLISS, and M. MASON; "Groups generated by two operators  $s_1, s_2$  satisfying the equation  $s_1 s_2^2 = s_2 s_1^2$ ," by G. A. MILLER; "Congruences of the elliptic type," by L. P. EISENHART.

THE July number (volume 31, number 3) of the *American Journal of Mathematics* contains the following papers: "The osculants of plane rational quartic curves," by H. I. THOMSEN; "On the primitive groups of classes six and eight," by W. A. MANNING; "Minimalkurven als Oerter von Krümmungsmittelpunkten," and "Minimalcurven und Serret'sche Flächen," by E. STUDY; "On Steinerians of quartic surfaces," by J. N. VAN DER VRIES; "On the determination of the ternary modular groups," by R. L. BÖRGER; "Groups of transformations of Sylow subgroups," by G. A. MILLER.

THE concluding (July) number of volume 11 of the *Annals of Mathematics* contains: "The theory of shadow rails," by W. H. JACKSON; "On a new method of computing the roots of Bessel's functions," by W. MARSHALL; "A functional equation for the sine," by E. B. VAN VLECK; "Periodic decimal fractions," by W. H. JACKSON; "Concerning the invariant points of commutative collineations," by W. B. FITE; "A new construction for cycloids," by H. SCHAPPER; "Metric classification of conics and quadrics by means of rank," by G. RUTLEDGE; "A method of solving linear differential equations," by P. A. LAMBERT.