

TWENTIETH ANNUAL LIST OF PAPERS.

READ BEFORE THE AMERICAN MATHEMATICAL SOCIETY AND
 SUBSEQUENTLY PUBLISHED, INCLUDING REFERENCES
 TO THE PLACES OF THEIR PUBLICATION.

- BATES, W. H. An Application of Symbolic Methods to the Treatment of Mean Curvatures in Hyperspace. Read (Chicago) Jan. 1, April 9, Dec. 31, 1909; and Dec. 29, 1910. *Transactions of the American Mathematical Society*, vol. 12, No. 1, pp. 19-38; Jan., 1911.
- BECK, H. Ein Seitenstück zur Moebius'schen Geometrie der Kreisverwandtschaften. Read Sept. 7, 1910. *Transactions of the American Mathematical Society*, vol. 11, No. 4, pp. 414-448; Oct., 1910.
- BIRKHOFF, G. D. General Theory of Linear Difference Equations. Read Sept. 6, 1910. *Transactions of the American Mathematical Society*, vol. 12, No. 2, pp. 243-284; April, 1911.
- BLICHFELDT, H. F. On the Order of Linear Homogeneous Groups (Fourth Paper). Read (San Francisco) Sept. 24, 1910. *Transactions of the American Mathematical Society*, vol. 12, No. 1, pp. 39-42; Jan., 1911.
- BLISS, G. A., and MASON, MAX. Fields of Extremals in Space. Read Sept. 10, 1908. *Transactions of the American Mathematical Society*, vol. 11, No. 3, pp. 325-340; July, 1910.
- BÖRGER, R. L. On the Determination of the Ternary Modular Groups. Read (Southwestern Section) Dec. 1, 1906. *American Journal of Mathematics*, vol. 32, No. 3, pp. 289-298; July, 1910.
- CAJORI, F. Fourier's Improvement of the Newton-Raphson Method of Approximation Anticipated by Mourraille. Read Sept. 7, 1910. *Bibliotheca Mathematica*, ser. 3, vol. 11, No. 2, pp. 132-137; April, 1911.
- Horner's Method of Approximation Anticipated by Ruffini. Read (Southwestern Section) Nov. 26, 1910. *Bulletin of the American Mathematical Society*, vol. 17, No. 8, pp. 409-414; May, 1911.
- Historical Note on the Newton-Raphson Method of Approximation. Read (Chicago) Dec. 29, 1910. *American Mathematical Monthly*, vol. 18, No. 2, pp. 29-32; Feb., 1911.
- CARMICHAEL, R. D. Linear Difference Equations and their Analytic Solutions. Read Sept. 6, 1910. *Transactions of the American Mathematical Society*, vol. 12, No. 1, pp. 99-134; Jan., 1911.
- CARVER, W. B. The Poles of Finite Groups of Fractional Linear Substitutions in the Complex Plane. Read Sept. 14, 1909. *American Mathematical Monthly*, vol. 18, No. 2, pp. 27-29; Feb., 1911.
- Ideals of a Quadratic Number Field in Canonic Form. Read April 30, 1910. *American Mathematical Monthly*, vol. 18, No. 4, pp. 81-87; April, 1911.
- COBLE, A. B. Symmetric Binary Forms and Involutions. Read Sept. 14, 1909. *American Journal of Mathematics*, vol. 32, No. 4, pp. 333-364; Oct., 1910.

- The Reduction of the Sextic Equation to the Valentiner Form Problem. Read Sept. 6, 1910. *Mathematische Annalen*, vol. 70, No. 3, pp. 337–350; April, 1911.
- The Lines and Triple Tangent Planes of a Cubic Surface. Read Dec. 29, 1910. *Johns Hopkins University Circular*, 1911, No. 2, pp. 59–63; Feb., 1911.
- CONNOR, J. R. On Certain Correspondences Associated with the Rational Plane Quintic Curve. Read Dec. 29, 1910. *Johns Hopkins University Circular*, 1911, No. 2, pp. 64–75; Feb., 1911.
- COOLIDGE, J. L. The Metrical Aspect of the Line-Sphere Transformation. Read Dec. 28, 1910. *Transactions of the American Mathematical Society*, vol. 12, No. 1, pp. 43–69; Jan., 1911.
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- DAVIS, E. W. The Imaginary in Geometry. Read (Chicago) March 30, 1907; Sept. 6, 1907; (Chicago) April 9, 1909; and (Southwestern Section) Nov. 27, 1909. *Nebraska University Studies*, vol. 10, No. 1, pp. 1–58; Jan., 1910.
- DICKSON, L. E. On the Factorization of Integral Functions with p -adic Coefficients. Read Sept. 6, 1910. *Bulletin of the American Mathematical Society*, vol. 17, No. 1, pp. 19–23; Oct., 1910.
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- A Fundamental System of Invariants of the General Modular Linear Group with a Solution of the Form Problem. Read Sept. 7, 1910. *Transactions of the American Mathematical Society*, vol. 12, No. 1, pp. 75–98; Jan., 1911.
- Binary Modular Groups and their Invariants. Read Sept. 6, 1910. *American Journal of Mathematics*, vol. 33, No. 2, pp. 175–192; April, 1911.
- Notes on the Theory of Numbers. Read April 29, 1911. *American Mathematical Monthly*, vol. 18, No. 5, pp. 109–111; May, 1911.
- On the Negative Discriminants for Which There is a Single Class of Positive Primitive Binary Quadratic Forms. Read April 29, 1911. *Bulletin of the American Mathematical Society*, vol. 17, No. 10, pp. 534–537; July, 1911.
- EIESLAND, JOHN. On a Class of Cubic Surfaces with Curves of the Same Species. Read Dec. 30, 1908. *American Journal of Mathematics*, vol. 33, No. 1, pp. 1–28; Jan., 1911.
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- FIELD, PETER. On the Circuits of a Plane Curve. Read Oct. 25, 1902. *Mathematische Annalen*, vol. 67, No. 1, pp. 126-129; April, 1909.
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- FITE, W. B. Concerning the Invariant Points of Commutative Collineations. Read April 30, 1910. *Annals of Mathematics*, ser. 2, vol. 11, No. 4, pp. 169-176; July, 1910.
- FORD, W. B. On the Relation Between the Sum Formulas of Hölder and Cesàro. Read Sept. 14, 1909. *American Journal of Mathematics*, vol. 32, No. 4, pp. 315-326; Oct., 1910.
- GLENN, O. E. Invariant Conditions that a p -ary Form may have Multiple Linear Factors. Read Oct. 29, 1910. *Bulletin of the American Mathematical Society*, vol. 17, No. 9, pp. 449-457; June, 1911.
- GLOVER, J. W. A Method of Analysis of Population and Vital Statistics. Read (Chicago), Jan. 1, 1909. *Transactions of the Sixth International Congress on Tuberculosis*, vol. 3, pp. 55-87; 1910.
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- KARPINSKI, L. C. Hindu Numerals in the Fihrist. Read (Chicago) Dec. 29, 1910. *Bibliotheca Mathematica*, ser. 3, vol. 11, No. 2, pp. 121-124; April, 1911.
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- LONGLEY, W. R. Note on Implicit Functions Defined by Two Equations when the Functional Determinant Vanishes. Read Dec. 30, 1908. *Bulletin of the American Mathematical Society*, vol. 17, No. 1, pp. 1–9; Oct., 1910.
- MACDONALD, W. E. See RISLEY, W. J.
- MACMILLAN, W. D. See MOULTON, F. R.
- MANNING, W. A. On the Primitive Groups of Classes Six and Eight. Read (San Francisco) Dec. 19, 1903. *American Journal of Mathematics*, vol. 32, No. 3, pp. 235–256; July, 1910.
- MASON, M. See BLISS, G. A.
- MILLER, G. A. Groups Generated by Two Operators s_1, s_2 Satisfying the Equation $s_1 s_2^2 = s_2 s_1^2$. Read Dec. 29, 1909. *Transactions of the American Mathematical Society*, vol. 11, No. 3, pp. 341–350; July, 1910.
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- On the Solution of a System of Linear Equations. Read Sept. 7, 1910. *American Mathematical Monthly*, vol. 17, Nos. 6–7, pp. 137–139; June–July, 1910, and No. 10, pp. 201–202; Oct., 1910.
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- MOORE, C. L. E. Infinitesimal Properties of Lines in S_4 with Applications to Circles in S_3 . Read Dec 30, 1908. *Proceedings of the American Academy of Arts and Sciences*, vol. 46, No. 15, pp. 345-362; Jan., 1911.
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- and MACMILLAN, W. D. On the Solutions of Certain Types of Linear Differential Equations with Periodic Coefficients. Read (Chicago) April 10, 1909. *American Journal of Mathematics*, vol. 33, No. 1, pp. 63-96; Jan., 1911.
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