THE APRIL MEETING IN CHICAGO

The two hundred eighty-ninth regular meeting of the Society was held at the University of Chicago on Friday and Saturday, April 3–4, 1931. About one hundred fifty persons attended the meeting, among whom were the following one hundred twelve members of the Society:

J. V. Atanasoff, F. L. Axen, R. P. Baker, R. H. Bardell, R. W. Barnard, Walter Bartky, M. M. Beenken, S. F. Bibb, G. A. Bliss, J. W. Bower, H. R. Brahana, R. C. Bullock, W. D. Cairns, G. N. Carmichael, R. D. Carmichael, E. W. Chittenden, A. B. Coble, L. W. Cohen. P. T. Copp, Max Coral, L. C. Cox, H. B. Curtis, L. E. Dickson, J. M. Earl, John Eiesland, E. B. Escott, H. P. Evans, H. S. Everett, E. M. Feltges, K. W. Folley, Cornelius Gouwens, G. H. Graves, L. M. Graves, L. W. Griffiths, V. G. Grove, B. L. Hagen, W. L. Hart, G. A. Herr, M. R. Hestenes, E. H. Hildebrandt, F. H. Hodge, T. F. Holgate, D. L. Holl, Mildred Hunt, M. H. Ingraham, Dunham Jackson, M. M. Johnson, H. F. S. Jonah, O. D. Kellogg, P. W. Ketchum, W. S. Kimball, J. M. Kinney, W. C. Krathwohl, E. P. Lane, R. E. Langer, Lincoln LaPaz, C. G. Latimer, M. I. Logsdon, J. V. McKelvey, C. C. MacDuffee, W. D. Mac-Millan, Wilhelm Maier, H. W. March, Morris Marden, T. E. Mason, E. D. Meacham, E. W. Miller, E. H. Moore, T. W. Moore, Max Morris, E. J. Moulton, A. L. Nelson, R. L. Newlin, E. J. Olson, H. L. Olson, C. I. Palmer, G. A. Parkinson, W. R. Paul, E. D. Pepper, H. A. Perkins, H. P. Pettit, H. H. Pixley, H. S. Pollard, J. E. Powell, G. Y. Rainich, M. S. Rees, W. T. Reid, H. L. Rietz, P. G. Robinson, A. E. Ross, W. E. Roth, R. G. Sanger, Henry Schultz, G. T. Sellew, H. A. Simmons, M. E. Sinclair, H. E. Slaught, I. S. Sokolnikoff, E. B. Stouffer, V. B. Teach, P. L. Trump, H. L. Turrittin, E. B. Van Vleck, J. I. Vass, H. S. Wall, L. E. Ward, Warren Weaver, M. B. White, F. B. Wiley, Y. K. Wong, F. E. Wood, Jacob Yerushalmy.

On Friday afternoon Professor G. Y. Rainich gave a symposium address on *Some trends in mathematical physics*. Professor Graves, who presided at this session, expressed the thanks of those present to the speaker.

On Friday evening members and their guests attended a dinner in the Hotel Windermere West. Professor H. E. Slaught was toastmaster. He called upon Professor Jackson who extended a warm invitation to all present to attend the summer meeting in Minneapolis. Associate Secretary Ingraham spoke of the financial needs of the Society as formulated under the leadership of the Committee on Funds; and Professor W. D. Cairns presented the needs of the Mathematical Association of

America; Professor O. D. Kellogg spoke of the national unity of the Society. One hundred thirteen persons attended this dinner.

The Saturday morning session opened with an address by Professor Dickson on *Proof of Waring's theorem on fifth powers.* This paper will appear in this Bulletin.

The meetings were held in Eckhart Hall, the splendid new mathematics building of the University of Chicago. On Friday afternoon tea was served in the Commons Room, and throughout the meeting this room was available for social purposes. It is in this room that the fine portrait of Professor E. H. Moore is hung.

Professors H. L. Rietz and Warren Weaver presided at the Friday morning session, and Professor Carmichael and Vice-President Lane at the session on Saturday morning.

Dr. Schoenberg and Dr. Young were introduced by Professor G. A. Bliss, Mr. Wilks and Mr. Craig by Professor H. L. Rietz, Mr. Oldenburger by Professor G. Y. Rainich, Mr. King by Professor W. S. Kimball, Dr. Bristow by Professor R. D. Carmichael, Miss Schottenfels by Professor L. E. Dickson, Mr. Case by Professor M. I. Logsdon, Professor Hughes by Professor T. E. Mason, and Mr. Robinson by Professor E. W. Chittenden.

GENERAL SESSION, Friday morning.

1. *Second degree addition theorems for even functions*, by Professor J. D. Grant. (Abstract No. 37-5-189-*t.*)

2. *Convergence criteria for continued fractions*, by Professor H. S. Wall. (Abstract No. 37-3-149-*t.*)

3. *General theorems on the convergence of sequences of Padé approximants*, by Professor H. S. Wall. (Abstract No. 37-5-205.)

4. *Note on geodesics in higher spaces*, by Dr. I. Schoenberg (International Research Fellow). (Abstract No. 37-5-199.)

5. *Integral equation of the Γ function*, by Professor Wilhelm Maier. (Abstract No. 37-5-197.)

6. *The Gaussian law of error*, by Professor Warren Weaver. (Abstract No. 37-5-188.)

7. *On the distribution of statistics in samples from a normal universe of two variates with matched sampling of one variable*, by Mr. S. S. Wilks. (Abstract No. 37-3-145.)

8. *The frequency of x/y for correlated variables,* by Mr. A. E. Craig. (Abstract No. 37-5-201.)

9. *Reduced matrices of class* 3, by Mr. Rufus Oldenburger. (Abstract No. 37-5-202.)

10. *The elastic instability of members with thin outstanding flanges of non-isotropic material,* by Professor H. W. March. (Abstract No. 37-5-203.)

11. *Theory of heat conduction and convection from a hot vertical plate,* by Professor W. S. Kimball and Mr. W. J. King. (Abstract No. 37-5-206.)

12. *Automatic integration and electrical computing instruments,* by Dr. A. E. Young. (Abstract No. 37-5-192.)

13. *On the necessary condition of Weierstrass in the multiple integral problem of the calculus of variations,* by Dr. E. J. McShane (National Research Fellow). (Abstract No. 37-3-143-*t*.)

14. *Note on a theorem of Bôcher and Koebe,* by Dr. J. J. Gergen. (Abstract No. 37-3-146-*t*.)

15. *Properties of the operator $z^{-v} \log z$, where $z = d/dx$,* by Professor H. T. Davis. (Abstract No. 37-3-148-*t*.)

16. *On an existence theorem of the calculus of variations,* by Professor L. M. Graves. (Abstract No. 37-3-151-*t*.)

17. *Analytic curves for which the chord equals the arc,* by Dr. J. M. Feld. (Abstract No. 37-3-152-*t*.)

18. *The generalized pedal transformations,* by Dr. J. M. Feld. (Abstract No. 37-3-153-*t*.)

19. *Birational contact transformations,* by Dr. J. M. Feld. (Abstract No. 37-3-154-*t*.)

20. *On the inverse of a certain Volterra functional transformation and its application to the evaluation of some definite integrals involving Bessel functions,* by Dr. H. P. Thielman. (Abtract No. 37-5-195-*t*.)

21. *Modular covariants,* by Professor Wilhelm Maier. (Abstract No. 37-5-196-*t*.)

GENERAL SESSION, Saturday morning.

22. *On the representative space S_9 of the plane cubics,* by Dr. Jacob Yerushalmy (National Research Fellow). (Abstract No. 37-3-147.)

23. *Conjugate nets and the lines of curvature,* by Professor E. P. Lane. (Abstract No. 37-3-144.)

24. *On the ruled $V_4^{(4)}$ in S_5 associated with a Schläfli hexad of 3-flats*, by Professor John Eiesland. (Abstract No. 37-3-150.)

25. *Homology groups associated with infinite complexes*, by Professor J. W. Alexander and Dr. L. W. Cohen (National Research Fellow). (Abstract No. 37-5-198.)

26. *A method for determining the canonical basis of an ideal in an algebraic field*, by Professor C. C. MacDuffee. (Abstract No. 37-3-142.)

27. *On certain divisors of the class number of a cyclotomic field*, by Professor C. G. Latimer. (Abstract No. 37-5-191.)

28. *On necessary and sufficient conditions for solvability of $f = 0$, where f is any indefinite ternary quadratic form*, by Mr. A. E. Ross. (Abstract No. 37-5-200.)

29. *A class of maximum numbers and a class of minimum numbers that are associated with certain Diophantine equations of the form $\Sigma(1/x_1 x_2 \ldots x_r) = b/a$*, by Professor H. A. Simmons. (Abstract No. 37-5-190.)

30. *Improvements of the Cauchy lemma on simultaneous representation*, by Dr. Gordon Pall (National Research Fellow). (Abstract No. 37-5-194-t.)

31. *On sums of squares*, by Dr. Gordon Pall (National Research Fellow). (Abstract No. 37-5-193-t.)

32. *Expansion theory associated with linear differential equations and their regular singular points*, by Dr. Leonard Bristow. (Abstract No. 37-5-204-t.)

33. *The holoedric isomorphism of the collineation group G_{20160}, $P.G[2,2^2]$, and the ternary linear fractional group G_{20160} in $G.F.$ $[2^2]$*, by Miss I. M. Schottenfels. (Abstract No. 37-5-210.)

34. *The behavior of the Hessian of a curve at a singular multiple point of the curve*, by Reverend J. E. Case. (Abstract No. 37-5-208-t.)

35. *On the analytical extension of the functions defined by factorial series*, by Professor H. K. Hughes. (Abstract No. 37-5-207-t.)

36. *Note on spaces satisfying the first enumerability axiom of Hausdorff*, by Mr. Selby Robinson. (Abstract No. 37-5-209-t.)

M. H. INGRAHAM,
Associate Secretary