

THE SUMMER MEETING IN NEW BRUNSWICK

The forty-ninth Summer Meeting of the Society and the twenty-fifth Colloquium were held at New Jersey College for Women, Rutgers University, on Sunday and Monday, September 12-13, 1943. The Mathematical Association of America met on Saturday, September 11, and the Institute of Mathematical Statistics met on Sunday and jointly with the Society on Monday morning. About three hundred fifty persons attended the meetings among whom were the following two hundred forty members of the Society:

C. R. Adams, E. B. Allen, C. B. Allendoerfer, Warren Ambrose, T. W. Anderson, H. E. Arnold, K. J. Arnold, L. A. Aroian, W. L. Ayres, A. V. Baez, F. E. Baker, D. H. Ballou, Valentin Bargmann, J. L. Barnes, P. T. Bateman, B. M. Bennett, Stefan Bergman, Lipman Bers, J. H. Bigelow, Garrett Birkhoff, G. D. Birkhoff, B. H. Bissinger, E. E. Blanche, W. A. Blankinship, E. M. Boggs, T. A. Botts, J. W. Bower, A. H. Bowker, S. E. Brasefield, H. W. Brinkmann, B. H. Brown, C. T. Bumer, L. H. Bunyan, Herbert Busemann, Hobart Bushey, J. H. Bushey, S. S. Cairns, J. W. Calkin, Achille Capecelatro, M. E. Carlen, W. B. Carver, C. R. Cassity, Abraham Charnes, M. D. Clement, A. B. Coble, H. R. Cooley, T. F. Cope, Byron Cosby, Richard Courant, A. P. Cowgill, C. C. Craig, E. L. Crow, H. B. Curry, J. H. Curtiss, E. H. Cutler, J. F. Daly, D. R. Davis, F. F. Decker, C. L. Dolph, Arnold Dresden, R. F. Dressler, William H. Durfee, M. L. Elveback, Benjamin Epstein, Paul Erdős, G. M. Ewing, W. K. Feller, F. G. Fender, F. A. Ficken, W. W. Flexner, Tomlinson Fort, R. M. Foster, F. H. Fowler, J. S. Frame, Hans Fried, Bernard Friedman, K. O. Friedrichs, Orrin Frink, R. E. Fullerton, A. S. Galbraith, G. N. Garrison, R. E. Gaskell, Abe Gelbart, B. P. Gill, S. H. Gould, H. S. Grant, J. W. Green, Lewis Greenwald, C. C. Grove, V. G. Grove, E. J. Gumbel, Theodore Hailperin, D. W. Hall, P. R. Halmos, G. E. Hay, G. A. Hedlund, M. H. Heins, Aaron Herschfeld, Fritz Herzog, T. H. Hildebrandt, Einar Hille, T. R. Hollcroft, Harold Hotelling, S. E. Hotelling, E. M. Hull, Witold Hurewicz, H. D. Huskey, L. C. Hutchinson, R. E. Johnson, B. W. Jones, Edward Kasner, R. B. Kershner, J. R. Kline, E. G. Kogbetliantz, Arthur Korn, W. D. Lambert, K. W. Lamson, H. G. Landau, V. V. Latshaw, Solomon Lefschetz, Joseph Lehner, Marguerite Lehr, D. C. Lewis, Marie Litzinger, J. N. B. Livingood, Simon Lopata, E. R. Lorch, R. T. Luginbuhl, P. H. McGrath, E. J. McShane, C. C. MacDuffee, G. W. Mackey, Saunders MacLane, H. F. MacNeish, W. G. Madow, M. P. Martin, W. T. Martin, A. E. Meder, F. H. Miller, K. S. Miller, L. W. Miller, E. B. Mode, Deane Montgomery, R. K. Morley, Richard Morris, D. S. Morse, E. J. Moulton, F. D. Murnaghan, W. R. Murray, C. A. Nelson, P. B. Norman, C. O. Oakley, L. F. Ollmann, P. S. Olmstead, F. W. Owens, Gordon Pall, C. W. Pfaum, R. S. Phillips, Everett Pitcher, Hillel Poritsky, Willy Prager, M. H. Protter, Hans Rademacher, J. F. Randolph, C. H. Rawlins, G. E. Raynor, O. H. Rechar, C. J. Rees, Mina Rees, C. F. Rehberg, R. G. D. Richardson, D. E. Richmond, C. E. Rickart, J. F. Ritt, H. E. Robbins, M. S. Robertson, R. E. Root, J. H. Rosenbloom, P. C. Rosenbloom, A. E. Ross, J. B. Rosser, S. G. Roth, Raphael Salem, Hans Samelson, F. E. Satterthwaite, R. H. Scanlan, Henry Scheffé, S. A. Schelkunoff, I. J. Schoenberg, Abraham Schwartz, H. M. Schwartz, G. E. Schweigert, Seymour Sherman, Max Shiffman, J. A. Shohat,

D. T. Sigley, L. L. Smail, D. M. Smiley, M. F. Smiley, T. L. Smith, W. M. Smith, Ernst Snapper, Andrew Sobczyk, R. D. Specht, E. P. Starke, H. W. Steinhaus, R. W. Stokes, R. R. Stoll, R. E. Street, R. C. Strodt, W. C. Strodt, Ethel Sutherland, J. L. Synge, Otto Szász, J. D. Tamarkin, J. I. Tracey, C. A. Truesdell, H. F. Tuan, A. W. Tucker, J. W. Tukey, D. F. Votaw, Abraham Wald, G. L. Walker, R. J. Walker, A. D. Wallace, R. M. Walter, G. C. Webber, K. W. Wegner, A. P. Wheeler, P. M. Whitman, Hassler Whitney, G. T. Whyburn, J. E. Wilkins, S. S. Wilks, W. L. G. Williams, Jacob Wolfowitz, Bertram Yood, J. W. T. Youngs, Oscar Zariski, Antoni Zygmund.

The Colloquium Lectures on the subject *Existence theorems in the calculus of variations* were delivered by Professor E. J. McShane of the University of Virginia on Sunday morning and Monday morning and afternoon. Acting President C. C. MacDuffee presided at the first and third lectures and Vice President J. D. Tamarkin at the second.

On Sunday at 2:00 P.M., Professor Antoni Zygmund of Mount Holyoke College gave an address entitled *The complex method of the theory of trigonometric series*. Professor G. D. Birkhoff presided.

At 3:15 P.M., Sunday, Professor F. D. Murnaghan of Johns Hopkins University gave an address entitled *Finite deformations of an elastic solid*. The discussion was led by Professor J. L. Synge of Ohio State University. Dean R. G. D. Richardson presided.

There was a business meeting Monday morning at which the Society voted to suspend for the duration of the war the first sentence of Article VIII, Section 1, of the By-Laws which reads "The Annual Meeting of the Society shall be held between the fifteenth of December and the fifteenth of January next following."

The presiding officers for the sessions of short papers were: Applied Mathematics, Sunday morning, Professor Hobart Bushey; Analysis, Sunday morning, Professor Hassler Whitney; Probability and Statistics (a joint session with the Institute of Mathematical Statistics), Monday morning, Professor C. C. Craig; Algebra, Geometry, and Topology, Monday morning, Professor G. A. Hedlund; Applied Mathematics, Monday afternoon, Professor F. D. Murnaghan; Analysis and Logic, Monday afternoon, Professor J. B. Rosser.

Headquarters for the meeting were in the Little Arcade on Jameson Campus. Rooms in the dormitories were made available to those attending the meetings.

On Saturday afternoon Dean Margaret T. Corwin received the mathematicians and their guests at her home.

A photograph was taken at 1:15 P.M., Sunday.

On Sunday evening there was a dinner for members of the Society, the Association, and the Institute and their guests. Professor Richard Morris was toastmaster. Dean Corwin welcomed the guests on behalf

of President R. C. Clothier of Rutgers University. Dean R. G. D. Richardson of Brown University spoke of the importance of applied mathematics in the war effort. Professor G. D. Birkhoff of Harvard University urged mathematicians and scientists to maintain a proper balance of values during the emergency. Professor W. L. Ayres of Purdue University presented a resolution of thanks to the President and Dean of New Jersey College for Women of Rutgers University, the local committee and all who assisted them for their excellent arrangements and cordial hospitality.

Following the dinner, members of the Department of Music of New Jersey College for Women gave an excellent musicale.

The Council met on Sunday, September 12, at 9:00 p.m. in the lounge at Jameson Campus.

The Secretary announced the election of the following twenty-eight persons to membership in the Society:

Professor Ernest Willard Anderson, Iowa State College;
 Dr. Melvin Avrami, Columbia University;
 Mr. Ralph Herbert Beard, New York Telephone Company;
 Mr. J. Oliver Brown, Hampton Institute, Hampton, Va.;
 Dr. Wei-Zang Chien, New York, N. Y.;
 Mr. Murray Ellis, University of Chicago;
 Mr. Eugene Fately, U. S. Army, Camp Murphy, Fla.;
 Dr. Casper Goffman, Westinghouse Electric and Manufacturing Company, Pittsburgh, Pa.;
 Mr. Clarence Frederic Hall, Rensselaer Polytechnic Institute;
 Dr. Robert Griffith Helsel, Ohio State University;
 Professor Gerald Boone Huff, Southern Methodist University;
 Mr. Solomon Hurwitz, Brooklyn College;
 Mrs. Florence Jacobson, University of North Carolina;
 Mr. Robert Kates, University of Chicago;
 Dr. Ervand G. Kogbetliantz, Lehigh University;
 Dr. Zbigniew Lepecki, University of Paraná, Paraná, Brazil;
 Mr. Simon Lopata, Columbia University;
 Mr. Elbert D. Miller, Yuba Junior College, Marysville, Calif.;
 Mr. Kenneth S. Miller, Yonkers, N. Y.;
 Dr. Alfonso Gándara Nápoles, Institute of Mathematics, National University of Mexico;
 Dr. Paul Felix Nemenyi, University of Colorado;
 Dr. Leonard Nicholl, Kay-Fries Chemicals, West Haverstraw, N. Y.;
 Mr. Robinson Henry Parson, Houston College for Negroes;
 Mr. George Paul Roland, Department of Public Works, Albany, N. Y.;
 Dr. Fritz Rothberger, Acadia University;
 Dr. Feodor Theilheimer, Trinity College, Hartford, Conn.;
 Mr. Milton Albert Treuhaft, Westinghouse Radio Division, Baltimore, Md.;
 Professor Wyman Loren Williams, University of South Carolina.

The following appointments by the President were reported: as

representative of the Society at the meeting in tribute to Nicholas Copernicus in New York City on May 24, 1943, Professor C. C. MacDuffee; as a Committee on Arrangements for the Annual Meeting in Chicago on November 26–27, 1943, Professors L. R. Ford (Chairman), W. L. Ayres, W. B. Carver, A. S. Householder, R. G. Sanger, and H. S. Wall; as liaison officer of the Society in connection with the editorial management of the *Quarterly of Applied Mathematics*, Professor Einar Hille; as a member of the Committee to Select Hour Speakers for Summer and Annual Meetings, to replace Professor M. H. Stone during his absence from the country, Professor J. F. Ritt.

It was announced that a report was sent in July to the Carnegie Corporation regarding the grant to *Mathematical Reviews*. Attention was called to the fact that the number of *Mathematical Reviews* subscribers for 1943 is 1239. This subscription list is undoubtedly larger than that of any mathematical journal which is not provided by a mathematical society to its members as one of the privileges of membership.

Certain invitations to give invited addresses were announced: Professor Reinhold Baer for the 1943 annual meeting in Chicago; Dr. Alfred Tarski, Professor M. A. Zorn, and Professor Theodore von Kármán for the November, 1943, meeting in Pasadena; Dr. D. H. Hyers and Professor R. M. Robinson for the 1944 spring meeting in Berkeley; Professors J. L. Synge and I. S. Sokolnikoff for the 1944 spring meeting in Chicago.

It was reported that fifteen microfilm reading machines had been sent to the London Mathematical Society for distribution to scientific organizations in Great Britain. It was also reported that a microfilm reading machine and copies of the Semicentennial volumes had been donated to the library of the American Philosophical Society.

On recommendation of the Colloquium Editorial Committee, the Council voted to invite Professor Tibor Radó to deliver a series of Colloquium Lectures in 1945.

Dr. Warren Weaver was appointed representative on the National Research Council for a period of three years beginning July, 1944.

Professor E. J. Moulton and Dean W. G. Simon were reappointed representatives on the Council of the American Association for the Advancement of Science for 1944.

Dean R. G. D. Richardson was appointed as an additional member of the Committee on Addresses in Applied Mathematics. The other members of this committee are Professor Richard Courant (Chairman), Mr. R. M. Foster, and Professor Harold Hotelling.

The Secretary reported the foundation of the Mexican Mathematical Society on June 30, 1943. (The inaugural ceremonies were originally planned for April 9, 1943, as reported on page 517 of the July Bulletin.) Professor Alfonso Nápoles Gándara is the president of the new organization. Greetings were sent to the group on behalf of the American Mathematical Society.

The Council adopted resolutions on the deaths of the following persons who have been prominent in the work of the Society:

HOWARD HAWKES MITCHELL

The Council of the American Mathematical Society records its deep sense of loss in the death on March 13, 1943, of Howard Hawkes Mitchell, Professor of Mathematics at the University of Pennsylvania.

Professor Mitchell was prominent in all phases of the Society's activity. He was a member of the Council from 1920 to 1922 and Vice President from 1932 to 1933. He was made an Associate Editor of the Transactions of the Society in 1920 and in 1925 was elected to the Editorial Committee of that journal. He served as a member of this Committee with distinction until 1930. His keen insight and excellent mathematical intuition fitted him particularly for the exacting duties of an Editor and, in every way, he maintained the high standards of the Transactions. He was most sympathetic in the handling of the work of younger mathematicians and was a valuable source of inspiration to them for their further research.

He was a kindly gentleman with broad interests and high ideals. In every manner he exemplified the finest in American mathematics and it is with deep emotion that we present this expression of our feelings on his passing.

WILLIAM FOGG OSGOOD

William Fogg Osgood, thoroughly representative of the mathematicians of his time, was self-disciplined in method, painstaking in detail, rigorous and clear in arriving at his results. For him mathematics was a way of discovery, and each individual function was an object worth knowing in all of its details. The method of strict analysis was a keen tool whose fineness he revered, and no labor was too great for him if he could create an end product that was smoothly machined in every part. At a time when scholarship and technique were of the highest repute, he was of the best of artist craftsmen. Some of his ideas were instrumental in forging new concepts. Yet he was innately conservative, because he felt that he had at his command all the tools which he needed in investigating those things which were vital to him.

He had his share in building the Harvard Division of Mathematics to an outstanding world position in teaching and research. But perhaps it is as a teacher of the first course in calculus that most of his pupils remember him. His classes in Mathematics 2 contained men of all ages, from the young freshman or sophomore who was stepping abroad in mathematics for the first time, to the experienced teacher who spent his sabbatical leave in learning how to solve the teaching difficulties which had plagued him. Osgood carried his mathematical straightforwardness fully into his instruction. His aim was to teach ideas, and to make clear the difficult ones, so that they might serve as a basis of further knowledge. The way of mathematics is long and difficult and makes great demands on will and conscience. Osgood wanted no false starts. His purpose sank deep into his students' minds, and they have never ceased to be grateful.

CLARA ELIZA SMITH

The Council of the American Mathematical Society desires to record its grateful appreciation of the service of Clara Eliza Smith, Professor of Mathematics at Wellesley College, deceased on May 12, 1943. Professor Smith's devotion to the Society was such that in the dozen years beginning with 1922, when it was necessary greatly to increase the membership of the Society in order to find financial support for its publications, she labored faithfully and unobtrusively as a member of the Committee on Membership, doubling the roll of members. Much of the success of that committee was due to her laborious and painstaking assembling of data regarding teachers of college mathematics. On behalf of the Society, the Council wishes to acknowledge her loving interest in its welfare.

EDWARD BURR VAN VLECK

June 7, 1863–June 2, 1943

The American Mathematical Society notes with sorrow the death of Professor E. B. Van Vleck, whom it honored as an erstwhile active participant and leader in its affairs, and as a noted mathematical scholar and investigator.

Professor Van Vleck's membership in this Society extended over more than a half century, dating from the year 1893, when he was fresh from the attainment of his doctorate. Over the course of many years he was a frequent attendant at the Society's meetings, and marked many of these occasions by the presentations of results of his investigations. The mathematical literature of those years is dotted with papers of his on infinite series, on functions defined by ordinary differential equations, on continued fractions, on point sets, on functional equations, on the roots of polynomials and on other subjects.

In recognition of his productive mathematical work Professor Van Vleck was variously and highly honored by this Society. The posts which were bestowed upon him include those of: Member of the Council, 1902–1904; Colloquium lecturer (The Boston Colloquium), 1903; Editor of the Transactions, 1905–1910; President, 1913–1914. Honors bestowed upon him by other sources include the Doctorate of Laws (Clark University), 1909; Election to the National Academy, 1911; the chairmanship of Section A of the American Association for the Advancement of Science, 1912; the Doctorate of Mathematics and Physics (University of Groningen), 1914; the Doctorate of Science (University of Chicago), 1916; Decoration by the French Government as "Officer de l'instruction publique," 1920; the Doctorate of Laws (Wesleyan University), 1925.

In his person Professor Van Vleck was modest and kindly. He was a sensitive man of broad cultural interests. As a teacher he stood on all occasions and steadfastly for the highest standards of achievement and of scholarly integrity.

The American Mathematical Society is indebted to Professor Van Vleck for his participation and counsel, which came to it during those important years when its membership was to be counted by hundreds rather than the present day's thousands. It gratefully acknowledges this, and mourns his departure from this life.

HENRY SEELY WHITE

Inasmuch as Henry Seely White, ninth President of the Society, 1903–1904, died on May 20, 1943; and

Inasmuch as he was very much one of a small number of enthusiastic young Americans, trained in Europe, who, near the close of the last century, determined to

give their lives to bringing American mathematical study and research up to the standard attained in Europe; and

Inasmuch as a most necessary element in accomplishing this purpose was founding and cherishing our Society, guiding its meetings and caring for its publications; and

Inasmuch as he was an unselfish and helpful friend to all who came to him for counsel or encouragement, were they contemporaries or youthful pupils; and

Inasmuch as his interest in mathematics never slackened, so that his most sustained piece of writing, a treatise on cubic curves, appeared near the close of his career; be it therefore

Resolved that the Society hereby place on record its deep sense of loss in his death.

The Council passed unanimously the following resolution: that it is the sense of the Council that the roster of scientific meetings of the Society should be continued at at least the same level as in preceding years. The Council designated the November 26–27, 1943, meeting in Chicago as the Annual Meeting of the Society. At this meeting the Bôcher Prize for papers in analysis published during the period of 1938–1942 will be awarded and Professor Marston Morse will deliver his retiring presidential address on *New settings for topology in analysis*. Times and places of meetings during 1944 were set as follows: February 26–27 in New York City; October 28 in New York City.

The committee on Mathematical Surveys reported the publication of the two monographs, *The theory of rings* by Professor Nathan Jacobson and *The problem of moments* by Professors J. A. Shohat and J. D. Tamarkin. The Council voted to continue the new series by publishing other books of the same general character as these two monographs.

Professor MacDuffee, Acting Chairman of the War Policy Committee, reported for the committee the following items: (1) Professors Stone and Morse have been representing the American Mathematical Society and the Mathematical Association of America in Washington on matters affecting the use of mathematically-trained and qualified personnel, working in close cooperation with Dean H. L. Dodge, Director of the Office of Scientific Personnel. (2) The Rockefeller Foundation has made a grant of \$2500 to defray the expenses of the War Policy Committee. Of this amount \$1,000 has been appropriated to the support of the Office of Scientific Personnel. (3) A subcommittee of the War Policy Committee to gather information as to the actual effect of the mathematical aspects of the Army and Navy training programs, and to formulate suggestions for their improvement, has been established. Professor W. L. Hart is Chairman and the other members are Professors C. R. Adams, H. M. Bacon, B. H. Brown, H. J. Ettliger, C. V. Newsom, G. B. Price, and W. M. Whyburn.

(4) The War Policy Committee has recognized the desirability of gathering information concerning the war activities of mathematicians but at present sees no way of carrying out a plan for doing so. Members of the Society and Association are urged to cooperate in making this undertaking possible at a later date. By keeping a careful and detailed record of his own activities and experience during the war period, each mathematician will contribute to the preservation of the data without which a record of this extraordinarily significant period in our history would be impossible. (5) The Committee on Available Teachers of Collegiate Mathematics has been functioning since April, 1943. A report on the activities of this Committee appears elsewhere in this Bulletin.

Titles and cross references to the abstracts of papers read are given below. The papers were read as follows: papers 1–8 in the section for Applied Mathematics on Sunday morning; papers 9–15 in the section for Analysis on Sunday morning; papers 16–20 in the section for Probability and Statistics on Monday morning; papers 21–26 in the section for Algebra, Geometry, and Topology on Monday morning; papers 27–32 in the section for Applied Mathematics on Monday afternoon; papers 33–36 in the section for Analysis and Logic on Monday afternoon; and papers 37–88, whose abstract numbers are followed by the letter t , were read by title. Professor Lee was introduced by Professor Leonard Carlitz, Mr. Handelman by Professor Willy Prager, Dr. Merrill by Professor E. B. Allen, Mr. Hsiung and Mr. Wang by Professor J. A. Shohat, and Mr. Salzer by Professor A. N. Lowan. Paper 3 was presented by Professor Hay, paper 7 by both authors, paper 11 by Dr. Herzog, paper 12 by Professor Martin, paper 14 by Dr. Fried, papers 19 and 20 by Professor Wald, and paper 24 by Professor Pall.

1. L. C. Hutchinson: *Free vibrations in a rectangular rod*. Preliminary report. (Abstract 49-11-284.)

2. E. G. Kogbetliantz: *Detailed quantitative interpretation of maps of gravitational anomalies with the aid of mathematical analysis*. Preliminary report. (Abstract 49 9-223.)

3. G. E. Hay and Willy Prager: *On plane rigid frames containing curved members*. (Abstract 49-9-221.)

4. Garrett Birkhoff: *Reversibility paradox and camber*. (Abstract 49-11-277.)

5. Arthur Korn: *Compressibility with respect to vibrations of high frequency*. (Abstract 49-11-285.)

6. Stefan Bergman: *Solutions of linear partial differential equations of fourth order*. (Abstract 49-9-218.)

7. D. W. Dudley and Hillel Poritsky: *The geometry of cutting and hobbing of worms and gears.* (Abstract 49-11-279.)
8. Otto Szász: *On uniform convergence of Fourier series.* (Abstract 49-9-215.)
9. C. E. Rickart: *An abstract Radon-Nikodym theorem.* (Abstract 49-11-270.)
10. B. H. Bissinger: *Generalizations of continued fractions.* (Abstract 49-11-252.)
11. Fritz Herzog and B. H. Bissinger: *Generalization of Borel's and F. Bernstein's theorems on continued fractions.* (Abstract 49-11-253.)
12. R. H. Cameron and W. T. Martin: *Transformations of Wiener integrals under translations.* (Abstract 49-9-204.)
13. Tomlinson Fort: *The weighted vibrating string and its limit.* (Abstract 49-9-207.)
14. Paul Erdős and Hans Fried: *On the connection between gaps in power series and the roots of their partial sums.* (Abstract 49-11-258.)
15. P. C. Rosenbloom: *Sequences of polynomials, especially sections of power series.* (Abstract 49-9-210.)
16. Jacob Wolfowitz: *Asymptotic distributions of ascending and descending runs.* (Abstract 49-7-197.)
17. E. J. Gumbel: *On the plotting of statistical observations.* (Abstract 49-9-238.)
18. W. K. Feller: *On a general class of "contagious" distributions.* (Abstract 49-11-301.)
19. Abraham Wald and Jacob Wolfowitz: *An exact test for randomness in the non-parametric case based on serial correlation.* (Abstract 49-11-303.)
20. H. B. Mann and Abraham Wald: *On the statistical treatment of linear stochastic difference equations.* (Abstract 49-11-302.)
21. William H. Durfee: *Congruence of quadratic forms over valuation rings.* (Abstract 49-9-200.)
22. Edward Kasner: *Motion in a resisting medium.* (Abstract 49-9-234.)
23. V. G. Grove: *A general theory of surfaces and conjugate nets.* (Abstract 49-9-230.)
24. R. E. O'Connor and Gordon Pall: *On integral quadratic forms in many variables.* (Abstract 49-11-247.)
25. H. L. Lee: *The sum of the k th power of polynomials of degree m in a Galois field.* Preliminary report. (Abstract 49-9-201.)
26. H. D. Huskey: *On polyhedra and polyhedral path surfaces.* (Abstract 49-9-240.)

27. C. A. Truesdell: *The differential equations of the membrane theory of shells of revolution.* (Abstract 49-11-294.)
28. G. H. Handelman: *On a principle of M. A. Sadowsky.* Preliminary report. (Abstract 49-11-282.)
29. A. E. Ross: *A note on forced oscillations of a conducting sphere.* (Abstract 49-11-292.)
30. S. H. Gould: *The Rayleigh-Ritz method for higher eigenvalues.* (Abstract 49-9-220.)
31. R. E. Gaskell: *On moment balancing in structural dynamics.* (Abstract 49-11-281.)
32. L. L. Merrill: *The mathematical determination of cooling rates during arc welding.* (Abstract 49-11-287.)
33. J. E. Wilkins: *Multiple integral problems in parametric form in the calculus of variations.* (Abstract 49-11-275.)
34. F. A. Ficken: *On two criteria for convexity in a symmetric Banach space.* (Abstract 49-5-134.)
35. Theodore Hailperin: *A set of axioms for logic.* (Abstract 49-9-236.)
36. Andrew Sobczyk: *On the extension of linear transformations.* (Abstract 49-9-214.)
37. A. A. Albert: *Quasigroups.* I. (Abstract 49-9-199-t.)
38. E. F. Beckenbach and R. H. Bing: *Conformal minimal varieties.* (Abstract 49-7-182-t.)
39. Stefan Bergman: *Fundamental solutions of partial differential equations of the second order.* (Abstract 49-11-251-t.)
40. L. M. Blumenthal: *Metric study of generalized elliptic spaces.* Preliminary report. (Abstract 49-11-304-t.)
41. L. M. Blumenthal: *New formulations of some imbedding theorems.* (Abstract 49-11-305-t.)
42. R. P. Boas: *Almost periodic functions of exponential type.* (Abstract 49-7-183-t.)
43. Herbert Busemann: *On spaces in which two points determine a geodesic.* (Abstract 49-9-228-t.)
44. Vincent Cowling and Walter Leighton: *On convergence regions for continued fractions.* (Abstract 49-7-184-t.)
45. M. M. Day: *Uniform convexity.* IV. (Abstract 49-9-205-t.)
46. John DeCicco: *Kasner's pseudo-angle.* (Abstract 49-9-229-t.)
47. Nelson Dunford and D. S. Miller: *On the ergodic theorem.* (Abstract 49-11-257-t.)
48. C. J. Everett: *Closure operators and galois theory in lattices.* (Abstract 49-7-180-t.)
49. G. M. Ewing: *Existence theorems for multiple integral variation problems.* Preliminary report. (Abstract 49-9-206-t.)

50. F. A. Ficken: *Note on the existence of scalar products in normed linear spaces.* (Abstract 49-5-133-t.)
51. G. E. Forsythe: *Note on equivalent potential temperature.* (Abstract 49-9-219-t.)
52. D. W. Hall: *A note on primitive skew curves.* (Abstract 49-11-307-t.)
53. M. H. Heins: *On a problem of Walsh concerning the Hadamard three circles theorem.* (Abstract 49-11-261-t.)
54. M. R. Hestenes: *The isoperimetric problem of Bolza in parametric form.* (Abstract 49-11-263-t.)
55. F. B. Hildebrand: *On the stress distribution in cantilever beams.* (Abstract 49-9-222-t.)
56. Carl Holtom: *Permanent configurations in the n-body problem.* (Abstract 49-11-283-t.)
57. C. C. Hsiung: *An invariant of intersection of two surfaces.* (Abstract 49-9-231-t.)
58. C. C. Hsiung: *Projective invariants of some particular pairs of space curves.* (Abstract 49-9-232-t.)
59. C. C. Hsiung: *Theory of intersection of two plane curves.* (Abstract 49-9-233-t.)
60. Nathan Jacobson: *An extension of Galois theory to non-separable and non-normal fields.* (Abstract 49-11-245-t.)
61. Irving Kaplansky: *Solution of the "problème des ménages."* (Abstract 49-7-181-t.)
62. Brockway McMillan: *Random point patterns.* Preliminary report. (Abstract 49-11-265-t.)
63. Szolem Mandelbrojt: *Quasi-analyticity and analytic continuation. A general principle.* (Abstract 49-9-208-t.)
64. Morris Marden: *On the stream function of axially symmetric flows.* (Abstract 49-9-225-t.)
65. A. D. Michal: *An analogue of the Maupertuis-Jacobi "least" action principle for dynamical systems of infinite degrees of freedom.* (Abstract 49-11-288-t.)
66. A. D. Michal: *Physical models of some curved differential-geometric metric spaces of infinite dimensions. I. Wave motion as a study in geodesics.* (Abstract 49-11-289-t.)
67. D. S. Miller: *On Carathéodory and Gillespie linear measure.* (Abstract 49-9-209-t.)
68. H. T. Muhly: *Independent integral bases and a characterization of regular surfaces.* (Abstract 49-7-195-t.)
69. H. E. Newell: *On the asymptotic forms of the solutions of a linear matrix differential equation in the complex domain.* (Abstract 49-11-269-t.)

70. Isaac Opatowski: *Cantilever beam of circular cross section and constant strength under the action of its own weight.* (Abstract 49-11-290-t.)
71. W. V. Parker: *Limits to the characteristic roots of a matrix.* (Abstract 49-9-202-t.)
72. M. O. Peach: *Simplified technique for constructing orthonormal functions.* (Abstract 49-11-291-t.)
73. Harry Pollard: *A new criterion for completely monotonic functions.* (Abstract 49-7-190-t.)
74. Raphael Salem: *A singularity of the Fourier series of continuous functions.* (Abstract 49-9-211-t.)
75. H. E. Salzer: *Table of first two hundred squares expressed as a sum of four tetrahedral numbers.* (Abstract 49-9-203-t.)
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