

ABSTRACTS OF PAPERS

SUBMITTED FOR PRESENTATION TO THIS SOCIETY

The following papers have been submitted to the Secretary and the Associate Secretaries of the Society for presentation at meetings of the Society. They are numbered serially throughout this volume. Cross-references to them in the reports of the meetings will give the number of this volume, the number of this issue, and the serial number of the abstract.

334. Dr. A. B. Brown and Professor B. O. Koopman: *Covering of analytical loci by complexes.*

The purpose of this paper is to prove that the locus defined by the vanishing of analytic functions of n variables is a complex of analysis situs. While the truth of this theorem has been recognized more or less generally, no rigorous proof has been given in the past. Van der Waerden has given a proof in the algebraic case, which has no direct generalization. Lefschetz has sketched a proof in the general case by methods which, however, would have to be profoundly altered before the proof could be considered rigorous. The treatment given in the present paper applies both in the real and in the complex domain, both in the small and in the large. In the real case the $(n-1)$ -dimensional part of the locus is either vacuous or an orientable $(n-1)$ -cycle (mod 2). (Received October 9, 1931.)

335. Dr. Lulu Hofmann: *On the double-point configurations of two projective planes on the same base as the result of the superposition of two distinct projectively related planes of euclidean space.*

The double-point configuration of two projective planes on the same base is thought of as the result of superposing two projectively related distinct planes of euclidean space. The different types of projective relations are classified from the metric point of view, and examined as to their capability of producing the various double-point configurations, when the planes are superposed in all possible ways. The most interesting and important configuration is the so-called "parabolic" one, consisting of one point and one line which are incident. It is shown that this configuration can be produced in $2^{\infty 1}$ ways for any non-affine projectivity, in $2^{\infty 2}$ ways for a special type of non-similar affinity, and in no way for any other projectivity. For a general non-affine projectivity, the points and lines that can occur as the elements of a parabolic configuration are all the points on two parallels to the vanishing line except their infinite point, and all the lines on a central line conic except the two parallel to the vanishing line. (Received October 9, 1931.)