

ON SOME NEW INVARIANTS OF A MANIFOLD

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In the present Note we consider the minimum number μ_i of elements of a certain type into which a given n -manifold M_n may be decomposed. The manifolds considered are manifolds in the sense of Newman-Alexander.* The number μ_i depends, of course, upon the type of element considered. The various characters thus obtained and their comparison lead one to consider interesting properties, related to other questions on the topology of manifolds.

We have considered three different types of elements. The simplest is the equivalent of a simplex from the standpoint of combinatorial analysis situs; namely, a manifold whose matrices of incidence are identical with those of a subdivision of a simplex into polyhedra. The second type of element is a manifold with regular boundary, whose homology groups are the same of those of a simplex. The third type of element has the same definition as the second, but with the difference that the homology groups are referred to the whole fundamental manifold, and not merely to the

