EQUIVALENCE FUNCTIONS SET AT CIRCLE

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In terms of invariant topological equivalence considered continuous functions defined on the circle with a finite number of extremes. Invariant features, which makes it possible to calculate the number of topologically non-equivalent functions are $\Omega(f)$- partition S^1 on the arc S_i, the value functions in their local extremes that form a particular type of snake.

Question classification and study conditions topological equivalence of functions on manifolds is an important area topology. This problem doing Arnold V., Dzhenkins Dzh., Kaplan V., Maksimenko S., Mors M., Pryshlyak A., V Sharco.

The purpose of research - establishing criteria topological equivalence of functions, defined on the circle and take a finite number of critical values.

Materials and methods research. To construct invariant continuous functions defined on the circle, used methods of topology and topological combinatorics. This made it possible to calculate the number of topologically non-equivalent functions. Invariant features that answers the question, act A_{2n-1} - snakes and R_m^n- snakes.

Results. Studied invariant continuous functions defined on a finite number of in the precincts of the extremum, which gave an opportunity count number of topological nonequivalent functions. We consider the general case where the number of critical values of the function is not equal to the number of local extremum function and *m* is the global maxima (minima). This function is invariant - splitting are $\Omega(f)$- partition S^1 on the arc S_i, the value functions in their local extreme form L_m^n - snakes.

Consider the case of continuous functions with a finite number of Morse critical points (local extremum) which zadani 1-measurable compact manifold without boundary (circle).

The problem of finding the number of nonequivalent topological Morse functions on the circle is reduced to combinatorics permutations. This is only a particular case, there are features that one critical value corresponds to at least two local extremes.

The definition of topological equivalence for continuous functions with finite number of extrema follows. that each equivalence class there is an essential feature that takes all the points extremes integer value from the set.

We denote by *S* range, the set of complex numbers z=1. We consider *S* as a differential manifold dimension 1. Fix orientation on *S* consider an arbitrary continuous function on a finite number of in *S* local extremum. The point of local maximum (minimum) function is a point *x S,* for which there exists a point x range *S* such that for all points y of intervals fair inequality *f (y) <f (x) (f (y)> f (x)),* the local extremum points of the function *f* are all points of local maxima (minima) of the function *f.* Since *(S)=0* (the Euler characteristic), the number of local extremum always even (the number of local minima is equal to the number of local maxima).

Number of nonequivalent investigated topological features some classes on circle: when the number of local extremum of the function coincides with the number of critical values are invariant A_{2n-1} - snakes; for the functions, which have a global minimum (maximum) i number of critical values are less than the number of local extreme, is invaryantom - R_m^n- snakes. We consider the general case where the number of critical values of the function is not equal to the number of local extremum function and *m* is the global maxima (minima). This function is invariant $\Omega(f)$- splitting arc S^1 to S_i, the value functions in their local extreme form L_m^n - snakes (elementary). The condition of topological equivalence of two functions on the precincts is an isomorphism partitions $\Omega(f)$ and $\Omega(g)$ they correspond.