

Only simply connected space is homeomorphic to sphere

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Simple but strict talk about homeomorphism in topology. The World. Shape. The Beginning and End are shown.

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I. MINE THEOREM

A space M , as original, is transformed into space m . I do not know, that they hiding, but I define homeomorphism such way: the infinitesimally near points in original are also infinitesimally near in the transformation (and vice versa). Hereby the points A and B are infinitesimally near, if their coordinate set in a space is

$$\lim_{A \rightarrow B} X_i(A) = X_i(B).$$

It is necessary, but not sufficient, that Wronski determinant of transformation is not infinitesimally small and not zero at some point.

A loop. In simply connected space any loop one can contract into a single point. In more complex space M one can not diminish the length of the loop, hereby remaining in space and not deforming it. Hereby at least a part of the loop will characterize the shape of space M , having the same points of M during all contraction of the loop. And further contraction of the loop will be transformation of these elements of M into a single point. Thus, at least two disjunct points of M correspond to single point in m . This is not homeomorphism as I defined it.

In conclusion, here is proved, that

- 1) the not simply connected space can not be homeomorphically transformed into simply connected one.
- 2) only simply connected space is homeomorphic to sphere.

II. BEGINNING AND THE "END" OF THE UNIVERSE

Take a closed model of Universe with Earth orbiting the Sun, hereby $-\infty < t < \infty$. By non-homeomorphic, but identical transformation

$$T = \frac{1}{t+1} - 1, \quad t \leq 0, \quad T = -\frac{1}{t+1} + 1, \quad t > 0$$

one gets the Edge of Universe at time $T = -1$ (Alpha) and the $T = +1$ (Omega). Velocity of Earth (in units of T) is infinite at Alpha and Omega. Thus, the Earth is omnipresent. The Earth can not be omnipresent, it is something mystical. Hereby is showed, that even past-eternal Universe must have literally wonderful beginning.

Take the popular infinite Universe models ($0 \leq r < \infty$) and trajectory $x = t$ in it. In addition to previous transformation to coordinate time make the analogous procedure to the spatial coordinates. At the Alpha and Omega You get limited velocity, thus no wonders in distant parts of the World. But, I believe, that Universe has the wonderful beginning and will have spectaculars "end", thus, I am rejecting the space-infinite Universe model.

III. DISCUSSION

Me: have mine theorem been already published? Who did it?