INSTANT TOPOLOGICAL RELATIONSHIPS HIDDEN IN THE REALITY

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In most applications of general topology, topology usually is not the first, primary structure, but the information which finally leads to the construction of the certain, for some purpose required topology, is filtered by more or less thick filter of the other mathematical structures. This fact has two main (from the topologist's point of view mostly negative) consequences:

(1) Most important applied constructions may be done (although, possibly, in a less elegant way, but still) in the primary structure, bypassing the topology.
(2) Some topologically important information from the reality may be lost (filtered out by the other, front-end mathematical structures).

Thus some natural and direct connection between topology and the reality could be useful. In this contribution we will discuss a pointless topological structure which directly reflects relationship between various locations which are glued together by possible presence of a physical object or a virtual "observer".

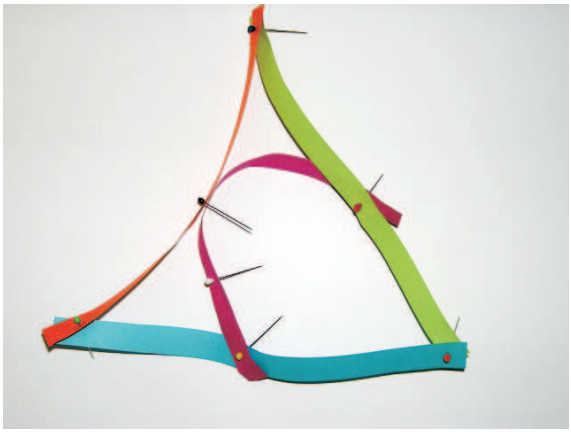

Figure 1. Pin – stripe model of the studied structure

The studied construction has some common background with FCA, formal concept analysis founded by B. Ganter and R. Wille (and successfully applied e.g. in data analysis and artificial intelligence) and thus connects, in some another, alternative way, general topology with computer science. But the studied structure yields also a very natural proposal for some kind of theoretical physics (especially lying beyond the standard model). Because of absence of the filter of the other mathematical structures, the topologies naturally derived in this way may be much wilder (interesting or pathological, as one wish to call them, but frequently satisfying no traditionally "nice" separation axioms and other "good" properties) although the standard Euclidean model, commonly used in the traditional geometry and physics is also included. For instance, there are some indices that the Universe may be naturally non-Hausdorff if quantum behavior of particles is incorporated to the construction of the studied topological

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structure. A simple but handy property of the studied structure is certain duality, which allows to switch between the traditional point-set and the pointless approach to the reality.

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