1036-54-23 **Dmitri Kozlov*** (dmitrykozlov@mtu-net.ru), Russia, 125475, Moscow, Klinskaja st.10, k.2, # 75, Moscow, Russia. *Synergetic structures of topological knots and links as physical models of point surfaces in 3D space.*

In theory of Synergetics by B. Fuller one of the key part plays Euler's topological formula, which joins together three elements of any surface in 3D space, namely vertexes, edges and facets. The process of physical modeling of spatial surfaces is more convenient in 2D space as their flat developments with the ability to transform into 3D space as topologically connected kinetic structures. There are two well-known methods of constructing such kinetic structures, based upon two elements of Euler's formula. The first method consists in dividing a flat solid sheet into a number of facets (F) with turning connections between them in order to create a flat folded development of a surface. The second method consists in approximating of flatness with systems of connected linear elements or edges (E), such as fabrics, nets, lattices and grids. In accordance with Euler' formula, the third method may be proposed - a vertex (V) or point model of plane surfaces. The physical possibility to create this model is provided by a special synergetic structure of complicated topological knot, made of elastic-flexible stretched material, so that its space crossings have physical contacts - models of points. In the common case the synergetic structure is a linkage of several periodic knots. (Received November 22, 2007)