Oral communication (Mathematics and Medicine)

Tangles and DNA

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Abstract

A *tangle* $\mathcal{T}$ is a pair (B, σ) formed by a ball B and a collection of properly embedded disjoint arcs σ in B. This purely topological object can be used to model DNA strands [1]. In this survey talk, several results in this interaction between topology and DNA recombination and knotting are presented [2].

References

[1] Ernst C, Sumners DW. (1990). A calculus for rational tangles: applications to DNA recombination. Mathematical Proceedings of the Cambridge Philosophical Society, 108(3), 489-515. doi:10.1017/S0305004100069383

[2] Nogueira J, Salgueiro A. (2021). On embeddings of 2-string tangles into the unknot, the unlink and split links. Topology and its Applications, 305, 107866. doi:10.1016/j.topol.2021.107866