UNIFIED THEORY OF FILAMENT ENTANGLEMENT

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(Joint work with Gregory Buck)

In any system involving long filaments, there are relations between the length of the filament[s], the packing-density, the curvature, and the topological complexity. The average packing density can be described by an exponent representing how fast the density grows with length. We can bound the expected topological complexity in terms of this packing exponent; on the other hand, if the topological complexity is less than what is predicted by the packing, then the filament process has some "non-random" feature.

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