A platform to share the excitement about new nanomaterials, nano-devices and methods

NANOSCIENCE SYMPOSIUM

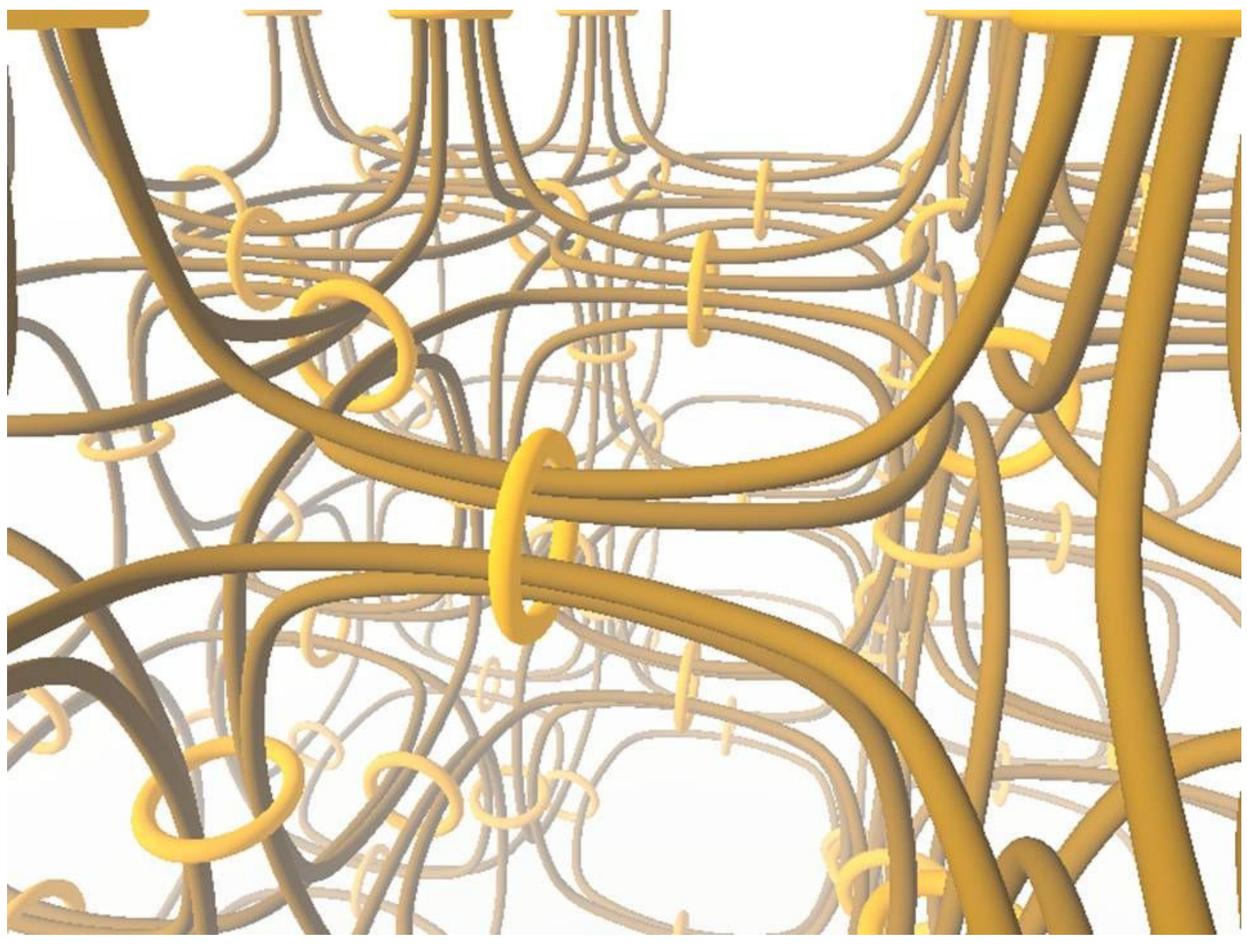
Topologically Ordered Matter and Why You Should be Interested

Prof. Dr. Steven H. Simon

Rudolf Peierls Centre for Theoretical Physics, Oxford University, UK

Abstract:

In two dimensional topological phases of matter, processes depend on gross topology rather than detailed geometry. Thinking in 2+1 dimensions, particle world lines can be interpreted as knots or links, and the amplitude for certain processes becomes a topological invariant of that link. While sounding rather exotic, we believe that such phases of matter not only exist, but have actually been observed in quantum Hall experiments, and possibly also in experimental systems ranging from quantum wires networks, to exotic superconductors, to quantum anomolous Hall systems and possibly spin liquid materials. We believe such systems could provide a uniquely practical route to building a quantum computer.



09.07.2019

13:15 pm | CHyN

Building 600 | 3rd Floor

Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

CHyN
Center for Hybrid Nanostructures