1053-57-258   **Uwe Kaiser*** (`kaiser@math.boisestate.edu`), Department of Mathematics, Boise State University, 1910 University Drive, Boise, ID 83725-1555. *What is Bar-Natan skein theory?* Preliminary report.

We show that the Bar-Natan skein modules of a 3-manifold M with 1-manifold α in its boundary are colimit modules of functors from a certain bordism category of 3-manifolds embedded in $M \times I$ into linear categories constructed from a Frobenius algebra. Those functors have a relatively simple *combinatorial* structure. But actual calculations require deep *topological* information about incompressible surfaces and tunneling invariants between those surfaces. (Received September 07, 2009)