

Categorification and Topological Quantum Field Theory

Carmen Caprau

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Abstract

Categorification stands for the passage from a traditional mathematical object to its higher categorical analogue, and it has been a topic of considerable interest to mathematicians. After a brief introduction to the subject, we will show how one can categorify the classical Jones polynomial invariant for knots and links via a topological quantum field theory (TQFT), to obtain a stronger, richer invariant, yet computable.