

1127-81-244

**Pavel Mnev\*** (pmnev@nd.edu), 255 Hurley, Notre Dame, IN 46556. *Abelian and non-abelian BF theory on cobordisms endowed with cellular decomposition.*

We will present an example of a topological field theory living on cobordisms endowed with CW decomposition (this example corresponds to the so-called BF theory in its abelian and non-abelian variants), which satisfies the Batalin-Vilkovisky master equation, satisfies (a version of) Segal's gluing axiom w.r.t. concatenation of cobordisms and is compatible with cellular aggregations. In non-abelian case, the action functional of the theory is constructed out of local unimodular L-infinity algebras on cells; the partition function carries the information about the Reidemeister torsion, together with certain information pertaining to formal geometry of the moduli space of local systems. This theory provides an example of the BV-BFV programme for quantization of field theories on manifolds with boundary in cohomological formalism. This is a joint work with Alberto S. Cattaneo and Nicolai Reshetikhin. (Received February 05, 2017)