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КОЛЛОКВИУМ

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Two-dimensional perturbative scalar field theory with polynomial potential and cutting-gluing

We study perturbative path integral quantization of the two-dimensional scalar field theory with a polynomial (or power series) interaction potential on manifolds with boundary. The perturbative partition function defined in terms of configuration space integrals on the surface satisfies an Atiyah-Segal type gluing formula. Moreover, partition functions (modified by an interesting nonlocal boundary term) do organize into a functor (in the sense of Segal's axiomatics), from Riemannian cobordism category to the category of Hilbert spaces. A crucial role in the result is played by the tadpoles (short loops). We will discuss functorial assignments of tadpoles and the relation to RG flow in the space of potentials. This is a report on a joint work with Santosh Kandel and Konstantin Wernli, [arXiv:1912.11202](https://arxiv.org/abs/1912.11202)

Приглашаются все желающие!