THE EFFECTIVE THEORY OF STRINGS

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We show that the Nambu–Goto string, and its higher dimensional generalizations, can be quantized, in the sense of an effective theory, in any dimension of the target space. The crucial point is to consider expansions around classical string configurations. We are using tools from perturbative algebraic quantum field theory [1], quantum field theory on curved spacetimes [2], and the Batalin–Vilkovisky formalism [3, 4].

[1] R. Brunetti, M. Dütsch, K. Fredenhagen. Adv. Theor. Math. Phys. **13** (2009) 1541.

[2] S. Hollands, R. M. Wald. Commun. Math. Phys. **231** (2002) 309.

[3] I. A. Batalin, G. A. Vilkovisky. Phys. Lett. B **102** (1981) 27.

[4] K. Fredenhagen, K. Rejzner. arXiv:1110.5232.