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Huber – A non-perturbative study of the correlation functions of three-dimensional Yang-Mills theory

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Functional equations like the functional renormalization group, Dyson-Schwinger equations or n-PI methods are useful tools which provide insight into the non-perturbative regime of quantum field theories. The basic objects are Green functions which can be calculated non-perturbatively. However, while the underlying equations are exact, approximations have to be introduced for the actual calculations. I will discuss the effects of such approximations in the case of three-dimensional Yang-Mills theory. This theory is UV finite. As a consequence, some technical ambiguities of the four-dimensional theory are absent which can cloud the effects of truncations.

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