

What a physicist should tell a mathematician about Quantum Field Theory (I,II,III)

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Abstract

The three talks introduce quantum field theory from the viewpoint of the Hopf algebra structure underlying its expansion in \hbar . They aim to acquaint the audience with basic notions of QFT in the first talk, review the results of computational physics which gave periods galore in the second talk and prepare for connections to motives in the third talk by introducing graph polynomials, and still hope to finish with some remarks on non-perturbative aspects of QFT.