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Three-loop effective potential from differential equations

We present calculation of the three-loop effective potential in massive scalar theory in broken phase. The calculation involves evaluation of three-loop vacuum integrals with two different masses. Full set of integrals evaluated analytically using a system of differential equations in canonical form and expressed in terms of cyclotomic polylogarithms.

Primary author: Dr PIKELNER, Andrey (BLTP JINR)

Presenter: Dr PIKELNER, Andrey (BLTP JINR)

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