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## Three-loop $\beta$ -functions and the NSVZ relations for MSSM in the case of using the higher covariant derivative regularization

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The three-loop  $\beta$ -functions for the Minimal Supersymmetric Standard Model (MSSM) are obtained in case of using the higher covariant derivative regularization for an arbitrary supersymmetric subtraction scheme. Firstly, the anomalous dimensions defined in terms of the bare couplings are calculated for all MSSM chiral matter superfields. After that, using the NSVZ relations we construct the three-loop  $\beta$ -functions also defined in terms of the bare couplings. This is possible, because in all orders the NSVZ equations are satisfied for these renormalization group functions with the higher covariant derivative regularization. Next, expressions for the two-loop anomalous dimensions and for the three-loop  $\beta$ -functions standardly defined in terms of the renormalized couplings are obtained for an arbitrary renormalization prescription. For a certain subtraction scheme, we reproduce the  $\overline{DR}$ -result obtained earlier, thus verifying it by an independent calculation.

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