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Kinematically Dependent Renormalization

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We suggest a renewed view on non-renormalizable interactions treated perturbatively within a kinematically dependent renormalization procedure. It is based on the usual BPHZ R-operation which is equally applicable to any local QFT independently whether it is renormalizable or not. The key point is that the renormalization constant becomes the function of kinematical variables acting as an operator on the amplitude. The procedure is demonstrated by the example of D=8 supersymmetric gauge theory considered within the spinor helicity formalism.

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