

# Quasi-classical Limit and Ultraviolet Renormalization in the Nelson Model

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We review the quasi-classical limit of the Nelson model, describing nucleons interacting with a scalar bosonic field, i.e., when the field degrees of freedom becomes classical while the nucleons retain their quantum nature. It is well known that such a model admits a simple energy renormalization of the ultraviolet divergence via the so-called dressing transformation. We then investigate the interplay between such a renormalization and the quasi-classical limit in both the stationary and dynamical pictures.

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