

European Physical Journal C 2016 vol.76 N9

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## Stability in higher-derivative matter fields theories

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### Abstract

© 2016, The Author(s). We discuss possible instabilities in higher-derivative matter field theories. These theories have two free parameters  $\beta_1$  and  $\beta_4$ . By using a dynamical system approach we explicitly demonstrate that for the stability of Minkowski space in an expanding universe we need the condition  $\beta_4 < 0$ . By using the quantum field theory approach we also find an additional restriction for the parameters,  $\beta_1 > -13\beta_4$ , which is needed to avoid a tachyon-like instability.

<http://dx.doi.org/10.1140/epjc/s10052-016-4355-7>

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