

# Fakeons, Lee-Wick Models and Quantum Gravity

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The "fakeon" is a fake degree of freedom, i.e. a degree of freedom that does not belong to the physical spectrum, but propagates inside the Feynman diagrams. I show that the fakeon solves the Lee-Wick models and can be used to make higher-derivative theories renormalizable and unitary. Finally, I use the fakeons to build a consistent, local theory of quantum gravity.