

# Lax Pair Equations and Connes-Kreimer Renormalization

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We find a Lax pair equation corresponding to the Connes-Kreimer Birkhoff factorization of the character group of a Hopf algebra. This flow preserves the locality of counterterms. In particular, we obtain a flow for the character given by Feynman rules, and relate this flow to the Renormalization Group Flow. This is a joint work with Steven Rosenberg.