



Contribution ID: 11

Type: **not specified**

## Gradient Properties of RG Flows

*Wednesday 11 September 2024 11:15 (45 minutes)*

General properties of the renormalisation group (RG) are of immense theoretical interest, as they have implications for the evolution of physical systems from high to low energies. In a perturbative setting, RG flows are determined by a vector field, the beta function, that can be computed in a loop expansion. In this talk, we will discuss the gradient property of the RG up to six loops in multi-scalar models in  $d=4$  and  $d=4-\epsilon$  dimensions. After elucidating a variety of subtleties, we will derive and discuss highly nontrivial constraints that need to be satisfied for the RG flow to be gradient.

**Presenter:** STERGIOU, Andreas