Mean ergodicity for composition operators on rearrangement-invariant spaces

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We study mean ergodicity of composition operators on rearrangement-invariant Banach function spaces. More precisely, we give a natural and easy-to-check condition on the symbol of the operator which entails mean ergodicity on a very large class of rearrangement-invariant Banach function spaces. The class of spaces covered by our results contains many non-reflexive spaces, such as the Lorentz spaces $L^{p,1}$ and $L^{p,\infty}$, $p \in (1, \infty)$, and the spaces L^1 and L^∞ over measure spaces of finite measure. The main novelty in our approach is the application of a new locally convex topology which we introduce and which lies strictly between the norm topology and the weak topology induced by the associate space. This talk is based on a joint work with Thomas Kalmes.