

# **FILTRATIONS OF GROUP REPRESENTATIONS: A GLIDER PERSPECTIVE**

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ABSTRACT. To understand representation theory of non-semisimple algebras (e.g. modular representation theory) one is forced to work with filtrations of modules instead of more tractable direct sum decompositions. Recently Caenepeel-Van Oystaeyen developed the theory of glider representations, which encompasses filtered modules and gives methods to use filtrations in an 'object-wise' way. In the first part of this talk we will recall some of the basics of the theory, from the point of view of Henrard-Van Roosmalen categorical approach. Secondly, we will focus on group representations and present joint work with Frederik Caenepeel (arXiv: 1911.11733). Concretely we will explain the classical group (representation) theoretical information contained in Grothendieck ring. If time permits we will underline some similarity with partial representation theory.