

# Representation stability for 0-Hecke modules

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## Abstract

The category **FI** and its variants have been of great interest recently. Being a finitely generated **FI**-module implies many desirable properties about sequences of symmetric group representations, in particular representation stability. We define a new combinatorial category analogous to **FI** for the 0-Hecke algebra, denoted by  $\mathcal{H}$ , indexing sequences of representations of  $H_n(0)$  as  $n$  varies under suitable compatibility conditions. We then provide examples of  $\mathcal{H}$ -modules and use these to discuss some properties finitely generated  $\mathcal{H}$ -modules possess, including a new form of representation stability and eventually polynomial growth.