

Geometry, Physics, and Representation Theory
Northeastern University

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**Modular representations of the symmetric group S_t , where t is a
 p -adic integer**

Abstract. Deligne constructed a family of categories $Rep(S_t)$, depending on a complex parameter t , which interpolate (in an appropriate sense) the categories of complex representations of symmetric groups S_n as n varies. In positive characteristic this construction breaks down, however Deligne conjectured certain stabilization and periodicity phenomena in the modular representation theory of symmetric groups which would imply the existence of a family of categories $Rep(S_t)$, depending on a p -adic integer parameter t , which interpolate the categories of representations of symmetric groups over a field of characteristic p . We resolve this conjecture for $p > 2$.