1125-20-2302 **David J. Hemmer*** (dhemmer@math.buffalo.edu), 211 Mathematics Building, University at Buffalo, Buffalo, NY 14260, and **Harald Ellers** (hellers@allegheny.edu), Allegheny College, Department of Mathematics, 20 N. Main St., Meadville, PA 16335. *Gelfand-Zetlin lattices in Specht modules for symmetric groups.* Preliminary report.

The irreducible representations of the symmetric group Σ_n in characteristic 0 are labelled by partitions λ of n. They have a very nice basis, called the Gelfand-Zetlin (G-Z) basis. This basis is indexed by standard tableaux of shape λ and is perfectly adapted to restriction to smaller symmetric groups, in the sense that the direct sum decomposition of the restricted module results from partitioning the basis vectors. It also has the property that the Jucys-Murphy elements $L_t = (1,t) + (2,t) + \cdots + (t-1,t)$ act diagonally on it with integer eigenvalues.

The complex irreducible module labelled by λ contains many different integer lattices, which often produce non-isomorphic modules on reduction to characteristic p. The most popular choice of lattice dates back to Specht, and the corresponding module is called the Specht module. The study of these modules was pioneered by Gordon James. This particular lattice has the property that it is generated by a Gelfand-Zetlin basis vector of "highest weight". We investigate lattices generated by other GZ-basis vectors, drawing parallels with the theory of maximal and minimal admissible lattices and Weyl modules for the general linear group. (Received September 20, 2016)