1003-20-1510        **Aaron M Phillips\*** (`ap9r@virginia.edu`), Department of Mathematics, University of Virginia, Charlottesville, VA 22904-4137. *Two approaches to modular representations of symmetric groups.* Preliminary report.

The modular representations of the symmetric groups can be obtained from certain rational representations of the general linear groups via Schur functors; this approach has been very fruitful, for example, leading to Kleshchev's modular branching rule. More recently, work of Ariki, Grojnowski, Lascoux-Leclerc-Thibon, and others has shown how we can view the representation ring of the symmetric groups as a module over an affine Kac-Moody algebra. The crystal graph associated to this module coincides with the socle branching graph for the symmetric groups, though it is not clear if it is possible to deduce the complete Kleshchev branching rule from this.

Brundan and Kleshchev have modified both approaches to apply to Schur's double covers of the symmetric groups, but here the two approaches have not been completely reconciled, and the branching rule is known only from the crystal graph, which leaves out some information. (Received October 05, 2004)