1022-05-8   **Eugene Strahov*** (`strahov@caltech.edu`), California Institute of Technology, Department of Mathematics, Pasadena, CA 253-37. *Generalized characters of the symmetric group.*

Normalized irreducible characters of the symmetric group $S(n)$ can be understood as zonal spherical functions of the Gelfand pair $(S(n) \times S(n), \text{Diag } S(n))$. They form an orthogonal basis in the space of the functions on the group $S(n)$ invariant with respect to conjugations by $S(n)$. In this paper we consider a different Gelfand pair connected with the symmetric group, that is an "unbalanced" Gelfand pair $(S(n) \times S(n-1), \text{Diag } S(n-1))$. Zonal spherical functions of this Gelfand pair form an orthogonal basis in a larger space of functions on $S(n)$, namely in the space of functions invariant with respect to conjugations by $S(n-1)$. We refer to these zonal spherical functions as normalized *generalized* characters of $S(n)$. The main discovery of the present paper is that these generalized characters can be computed on the same level as the irreducible characters of the symmetric group. The paper gives a Murnaghan-Nakayama type rule, a Frobenius type formula, and an analogue of the determinantal formula for the generalized characters of $S(n)$. (Received May 07, 2006)