

Physics 711, Symmetry Problems in Physics Fall 2005

Homework

Due 10/4/05

For S_5 , find the conjugacy classes, label them by Young tableaux, give an example of a permutation from each class, find the number k_α of elements in each class, find the dimension of the irrep n_a that is associated with each class, verify

$$\sum_{\alpha} k_{\alpha} = 5! \tag{1}$$

and

$$\sum_a n_a^2 = 5! \tag{2}$$

and calculate the character and normalized character tables.