Sho MATSUMOTO

Orthogonal matrix integrals and zonal spherical functions name

Abstract. We consider about integrals of polynomial functions of Haar-distributed orthogonal matrix entries. Benoit Collins and Piotr Sniady proved that the integrals are evaluated by using special functions on symmetric groups. The functions are called Weingarten functions. Our main result is to give an expansion of the Weingarten function with respect to zonal spherical functions of a finite Gelfand pair. Moreover, we derive a connection between Weingarten functions and Jucys-Murphy elements. This talk is a part of the joint work with Benoit Collins.