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Naihuan Jing* (jing@math.ncsu.edu), Department of Mathematics, North Carolina State University, Raleigh, NC 27695. *Quantum spherical functions and quantum Pfaffians.*

We will study the quantum homogeneous space of the quantum general linear group modulo the symplectic subgroup. The ring structure of the invariant quantum space will be completely determined in terms of generators and relations. The quantum bi-invariants are studied by introducing the quantum Pfaffian, whose properties are also studied. The connection with zonal symmetric polynomials as special Macdonald polynomials will also be discussed. This is joint work with Rob Ray. (Received September 16, 2005)