1096-16-1290 **Norihiro Nakashima*** (naka_n@math.sci.hokudai.ac.jp), Kita 10, Nishi 8, Kita-Ku, Sapporo, Hokkaido 060-0810, Japan. *A construction for canonical systems of basic invariants for reflection groups.* Preliminary report.

Let V be a real Euclidean space, and $W \subseteq O(V)$ a finite reflection group. We denote by S the set of polynomial functions on V. Then W naturally acts on S. It is well known that the subalgebra of S consisting of invariant polynomials is generated by n algebraically independent homogeneous polynomials. A system of such generators is called a system of basic invariants.

A canonical system of basic invariant was introduced by Flatto and Wiener for solving a mean value problem related with the W-orbit of a point in V. It is known that there exists a canonical system for all finite real reflection groups. Iwasaki determined the structure of the vector space consisting of real valued continuous functions satisfying the mean value property on a regular convex polytope. Explicit formulas of canonical systems play an important part in the proof by Iwasaki. Explicit formulas of canonical systems of types A, B, D, F, H and I are already given. That problem of type E is still opened.

In this talk, we will give a construction for the explicit formulas of canonical systems. The construction does not depend on the classification of finite irreducible reflection groups. This is based on a joint work with S. Tsujie. (Received September 14, 2013)