980-32-118   **Hiroaki Terao*** (`hterao@comp.metro-u.ac.jp`), Department of Mathematics, Tokyo Metropolitan University, 1-1 Minamiohsawa, Hachioji Tokyo 192-0397, Japan. *The Hodge filtration and the contact-order filtration of derivations of Coxeter arrangements.*

Let W be a finite irreducible orthogonal reflection group acting on an ℓ-dimensionel Euclidean vector space V. The quotient space V/W has rich differential geometric structures: it has flat coordinates, the Hodge filtration (in the sense of K. Saito) and has the Frobenius manifold structure (in the sense of B. Dubrovin). In this talk we introduce the contact-order filtration of the derivation module $D(\mathcal{A})$ along the corresponding Coxeter arrangement $\mathcal{A}$ and prove that the filtration is essentially equivalent to the above-mentioned differential-geometric structures. Bases for each component of the contact-order filtration are constructed using the Gauss-Manin connection and the primitive vector field (=the unity vector field.)

The original motivation to study the contact-order filtration is to understand the generalised Shi and Catalan arrangements which are conjectured to be free arrangements. (Received August 09, 2002)