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# The Microlocal Structure of Weighted Homogeneous Polynomials Associated with Coxeter Systems, II

Tamaki YANO and Jiro SEKIGUCHI

*Saitama University and Tokyo Metropolitan University*

## Introduction

This paper is a continuation of the previous paper [9]. We retain the notation used there.

Let $(W, S)$ be a finite Coxeter system. If the rank of $W$ is $l$, there exist $l$-number of algebraically independent $W$-invariant polynomials $x_1, \cdots, x_l$ which freely generate the $W$-invariant ring. Let $f_W(x_1, \cdots, x_l)$ be the square of an anti-invariant of $W$. Then there exist vector fields $X_1, \cdots, X_l$ such that they form a free basis of the Lie algebra of vector fields thereby the set $\{x \in C^l; f_W(x)=0\}$ being left invariant. In particular, we have $X_i f_W = c_i(x) f_W$ with a certain polynomial $c_i(x)$ $(i=1, \cdots, l)$. We studied in [9] the microlocal structure of the $\mathscr{D}_{C^l}$-Module

$$\mathscr{N}_\alpha' = \mathscr{D}_{C^l} \Big/ \sum_{i=1}^{l} \mathscr{D}_{C^l}(X_i - \alpha c_i(x)) \quad (\alpha \in C) .$$

The main purpose of this paper is to determine the holonomy diagram of the system $\mathscr{N}_\alpha'$ for an irreducible finite Coxeter system (except of types $E_7$ and $E_8$), which gives enough information for the system $\mathscr{N}_\alpha'$.

In connection with the study, we shall also obtain rather computational results concerning the basic invariants $x_1, \cdots, x_l$, which are complementary to our study but may be useful to the theory of logarithmic poles developed by Professor K. Saito (cf. [4]). Since we have only intermediate results when $W$ is of type $E_7$ or $E_8$, we treat in this paper the Coxeter systems of types $A_l$, $B_l$, $D_l$, $E_6$, $F_4$, $G_2$, $H_3$, $H_4$, $I_2(p)$.

## § 1. The holonomy diagram.

(1.1) We begin with explaining the holonomy diagram of a holonomic system. The holonomy diagram gives enough information for the holonomic system. A typical application will be seen in [3].

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