THE b-FUNCTIONS AND HOLONOMY DIAGRAMS OF IRREDUCIBLE REGULAR PREHOMOGENEOUS VECTOR SPACES

TATSUO KIMURA

Introduction

The purpose of this paper is to investigate the micro-local structure and to calculate, by constructing the holonomy diagrams, the b-functions (See [2]) of irreducible regular prehomogeneous vector spaces (See [1]).

Since we know the relation of b-functions with respect to castling transformations (See § 12), it is enough to calculate them only when they are reduced. In this paper, we shall deal with twenty of all twenty nine reduced regular P.V.'s in the Table in [1]. Together with other articles, this completes the list of b-functions of irreducible reduced regular prehomogeneous vector spaces (See § 12) except $(SL(5) \times GL(4), \Lambda_2 \otimes \Lambda_1, V(10) \otimes V(4))$ which is the most complicated case (See I. Ozeki [11]). This paper consists of the following twelve sections and one Appendix with I. Ozeki.