Monodromy of Lauricella's hypergeometric F_A-system

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Abstract. We give a monodromy representation of Lauricella's system of differential equations annihilating the hypergeometric series $F_A(a, (b), (c); x)$ of k-variables; its rank is 2^k. Under some non-integral conditions for parameters a, $(b) = (b_1, \ldots, b_k)$, $(c) = (c_1, \ldots, c_k)$, we find circuit matrices with respect to solutions represented by integrals. We make use of the intersection numbers of the domains of the integrals.