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## A Note on the Fusion Product Decomposition of Demazure Modules

We settle the fusion product decomposition theorem for higher level affine Demazure modules for the cases  $E_{6,7,8}^{(1)}$ ,  $F_4^{(1)}$  and  $E_6^{(2)}$ , thus completing the main theorems of V. Chari et al. [J. Algebra 455 (2016) 314–346] and D. Kus et al. [Representation Theory 20 (2016) 94–127]. We obtain a new combinatorial proof for the key fact, that was used in Chari et al. (op. cit.), to prove this decomposition theorem. We give a case free uniform proof for this key fact.

**Keywords**: Current algebras, Demazure modules, Steinberg decomposition, affine Weyl groups.

MSC: 17B10, 17B22, 17B65.