



# YMC 2006



Young Mathematicians Conference 2006

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## COMPUTATIONAL ISSUES IN WEYL GROUPS

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**Abstract of Report Talk:** Computer packages for Weyl group computations typically do not represent group elements uniquely but rather use generators and relations. A unique representation for Weyl group elements in  $A_n$ ,  $B_n$ , and  $D_n$  as signed permutation vectors has already been developed. We present an extension of this notation for Weyl groups of types  $E$ ,  $F$ , and  $G$ . We also present algorithms for computing properties of group elements such as length. A future goal is to implement this notation and its associated algorithms in Mathematica. [OE13164051]

[Joint work with Juan Li, Jeremy Schwartz, Spyro Roubos]

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