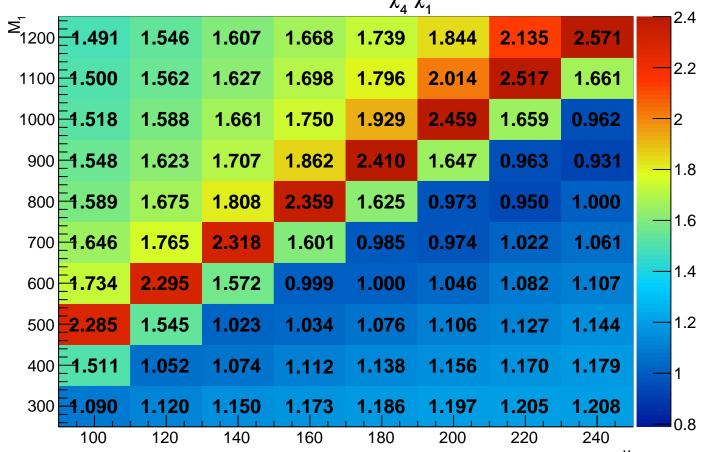k-factor $\chi_4^0 \chi_1^-$