

Interactive comment on “MP CBM-Z V1.0: design for a new CBM-Z gas-phase chemical mechanism architecture for next generation processors” by Hui Wang et al.

Anonymous Referee #1

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In this manuscript, the authors design a architecture for CBM-Z chemical mechnism on next generation processors. This is interesting and quite useful for the routine numerical air quality forecast. I believe that this accelration is helpful to policy managers. The accelration of chemical solver is a difficult problem since 1980s. The computer technique has a rapid development. However, air quality models do not fully utilize this development. The contribution is generally well-written and complete. I suggested this manuscript to be published after considering the following comments.

SpeciîñĂc Comments: 1. In figure 4, The authors plots the intercomparison of SO₂, O₃, H₂O₂, NO, H₂SO₄ between base and optimized simulations. I suggested some

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short-lived species like OH, HO₂, RO₂ should be compared, because these species are more sensitive to the mechanism, and very important to atmospheric oxidation. 2. The scenario in this manuscript is urban/polluted conditions. The authors present comparisons in other scenarios like marine, biomass burning.

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