Comparison of the SAPRC18 and SAPRC11 photochemical mechanisms for ozone simulation in China

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The latest SAPRC photochemical mechanism SAPRC18 (S18), an update from SAPRC11 (S11), is implemented into the Community Multi-scale Air Quality (CMAQ) model and applied to simulate ozone formation during the China Air Quality Study 2017. Compared to S11, S18 can better simulate NO_x recycling processes and formation of SOA precursors. The results from the S11 mechanism are compared with those from the S18 mechanism. The photolysis rates of new model species added to the mechanism by S11 are much lower than those of S18.

Keywords: S18, S11, CMAQ, photolysis rates

