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東アジアにおける近年の排出量変化に対するオゾントレンドと線形性
Regional O3 trend and its chemical linearity in recent anthropogenic emissions change over East Asia

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Regional O3 response to perturbations of Chinese anthropogenic emissions is investigated using the brute force method by a regional chemical transport model. Both springtime and summertime ozone responses are unlikely to show nonlinearly in the emissions perturbation of 70%?200% over East Asia. Observed NO2 in the east central China in 2003?2008 is ranging within a factor of 0.82?1.35 of the 2004 level, and that explains recent O3 change stays within the linear O3 response range. As for observed O3 at Japanese remote sites, the O3 response is 11.7 ppbv with respect to a 100% increase at the east central China from NO2 level in 2004. The simulated relationship between O3 and NO2 shows 5.9 ppbv of O3 growth is caused by doubled NO2 from the 2004 level.

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