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EFFECTS OF REGIONAL SO2 EMISSION CHANGE ON THE DEPOSITION OF SULFUR IN NORTHEAST ASIA

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It is widely accepted that, at present, the SO2 emissions in China are not increasing thanks to the rigorous Chinese government policies. However, with the development of western China, it is possible that the SO2 emission amounts might increase in regional scale. In this study, changes of sulfur deposition pattern in northeast Asia due regional sulfur emission pattern changes are studied by using the RAINS-Asia (Regional Air pollution Information and Simulation-Asia) model developed by IIASA (International Institute for Applied System Analysis). Four scenarios have been postulated: (1) No further control case in the RAINS-Asia model (base case), (2) Emissions of sulfur in west increase while those in east are not changing, (3) Emissions of sulfur in west increase while those in east are decreasing, and (4) Emissions of sulfur in both west and east increase. Regions in coastal areas are generally classified as eastern area, regions west of Shaanxi province and Nei Mongol autonomous district are classified as western area, and other regions are classified as middle area. It is found that, in general, the sulfur emission increase in western China result in increase of sulfur deposition in China but decrease the sulfur deposition in both Korean peninsula and Japanese islands.