Supplementary Information

Increased Importance of Aerosol-Cloud Interaction for Surface $PM_{2.5}$ Pollution Relative to Aerosol-Radiation Interaction in China With the Anthropogenic Emission Reduction

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Table S1. Statistics for the simulation of meteorological factors in January and July of 2013 and 2021.

Meteorological factors		OBS	SIM	Bias
T2 (°C)	January 2013	269.23	269.10	-0.76
	January 2021	270.56	269.97	-0.59
	July 2013	298.02	297.16	-0.86
	July 2021	298.55	297.65	-0.90
Q2 (g/kg)	January 2013	2.47	2.38	-0.09
	January 2021	2.54	2.46	-0.09
	July 2013	14.86	14.71	-0.15
	July 2021	16.30	15.58	-0.72
WS10 (m/s)	January 2013	2.38	3.31	0.94
	January 2021	2.68	3.68	1.00
	July 2013	2.62	3.62	1.00
	July 2021	2.69	3.51	0.82
WD10 (°)	January 2013	275.99	282.83	10.27
	January 2021	259.21	251.70	11.46
	July 2013	192.27	183.08	4.86
	July 2021	180.47	157.43	3.96

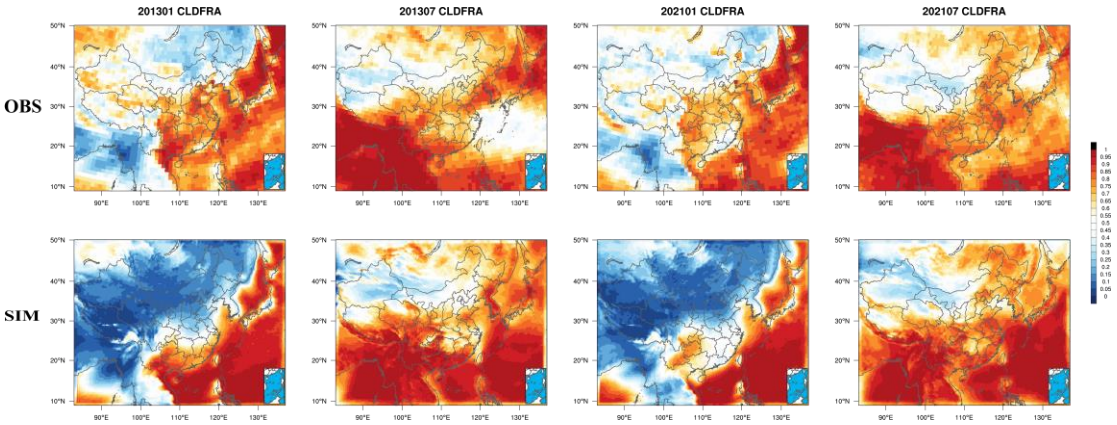

Fig. S1. Observation and simulation of cloud fraction in January and July of 2013 and 2021.

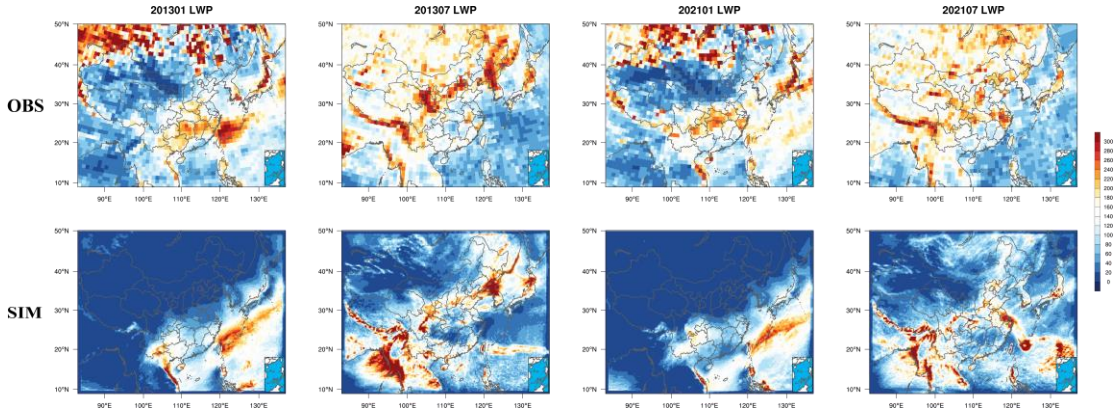

Fig. S2. Observation and simulation of liquid water path (unit: g m^{-2}) in January and July of 2013 and 2021.

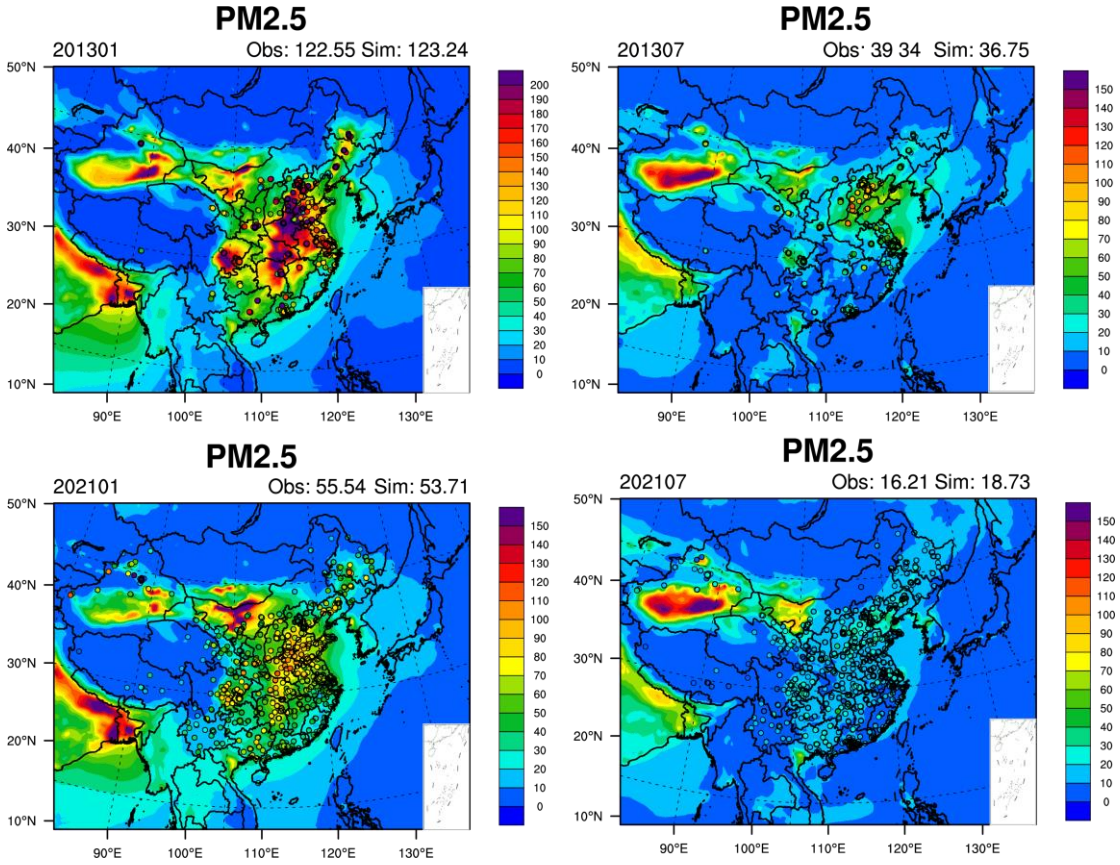

Fig. S3. Observation and simulation of surface $PM_{2.5}$ concentration (unit: μg m^{-3}) in January and July of 2013 and 2021.

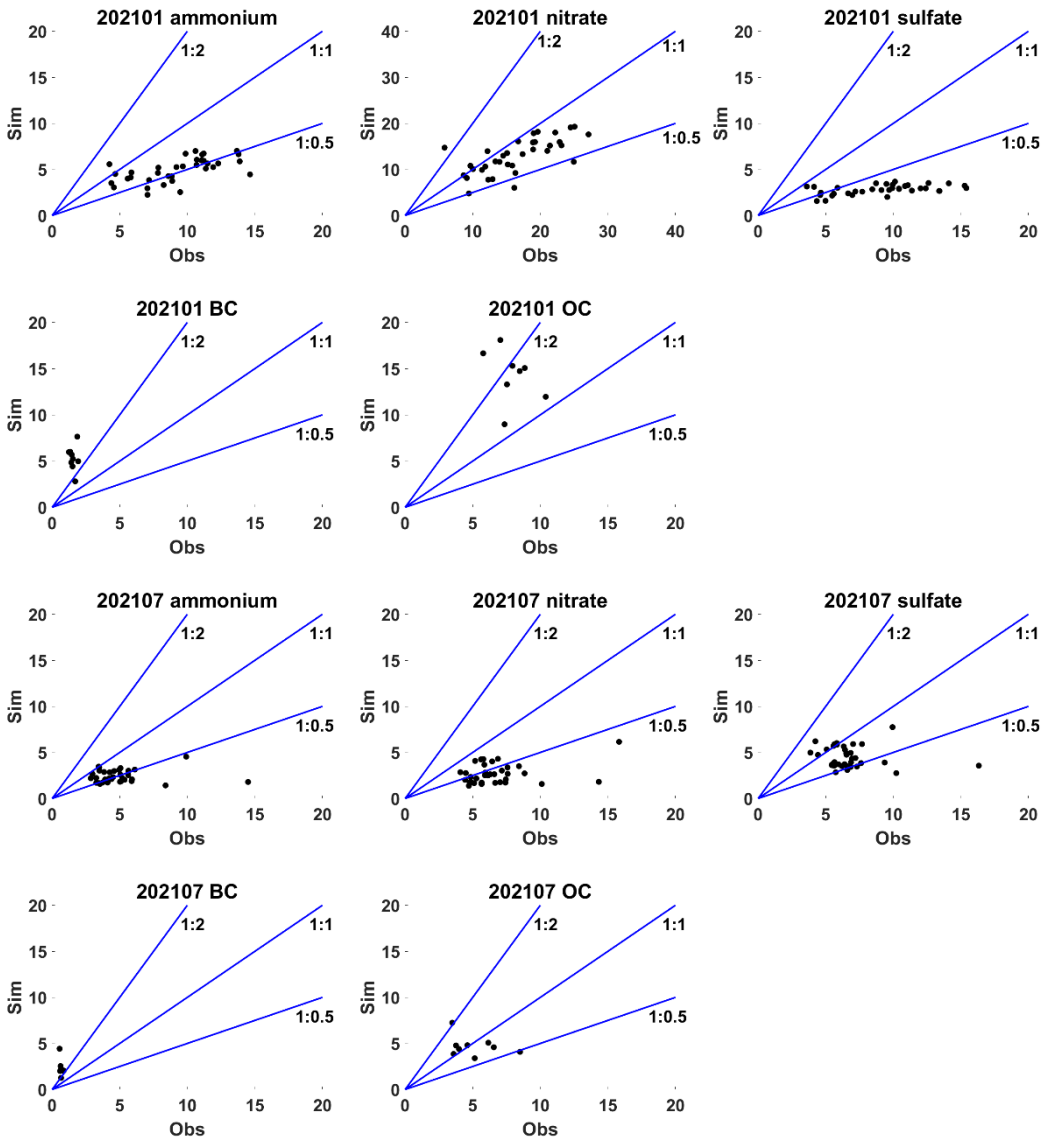

Fig. S4. The ratios of simulation to observation of ammonium, nitrate, sulfate, black carbon (BC), and organic carbon (OC) (unit: μg m^{-3}) in January and July 2021.

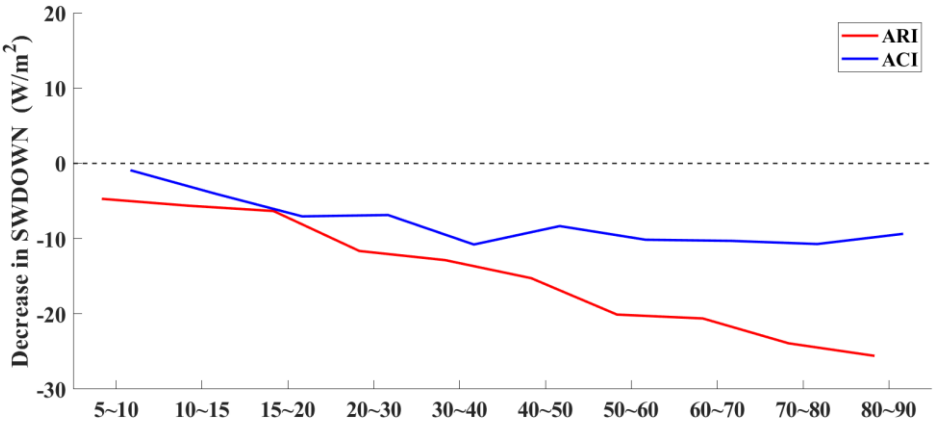

Fig. S5. The SWDOWN reduction induced by ARI and ACI under different ambient $PM_{2.5}$ levels.