

Appendix–A: AOD–PM_{2.5} correlation based on bins of meteorological variables from both HKO and WRF model at five air quality stations in Hong Kong for autumn and winter of 2007 and 2008

Serial#	Bins	AOD–PM _{2.5} Correlation	Size (N)	PM _{2.5} > HK 24–hr AQO
STEMP (°C)				
1	4.0–10.9	0.784	15	0
2	11.0–14.9	0.830	39	6
3	15.0–17.9	0.786	56	6
4	18.0–20.9	0.841	64	12
5	23.0–30.9	0.902	34	04
WTEMP (°C) at 500 m				
6	11.0–14.9:	0.854	26	3
7	15.0–17.9:	0.823	44	6
8	18.0–19.9	0.876	46	10
9	20.0–22.9	0.716	63	3
10	23.0–30.0	0.907	37	5
SRH (%)				
11	13–39	0.736	43	2
12	30–39	0.704	30	2
13	40–59	0.818	99	16
14	46–69	0.836	139	21
15	47–79	0.843	153	22
16	55–79	0.855	106	13
17	65–79	0.885	47	5
18	70–90	0.852	21	1
WRH (%) at 500 m				
19	20–39:	0.648	37	1
20	40–49:	0.854	44	8
21	50–59:	0.831	67	14
22	55–60:	0.860	40	9
23	55–65:	0.849	71	10
24	66–75:	0.778	32	1
25	71–80:	0.057	21	0
SWS (ms ⁻¹)				
26	0.38–1.99	0.772	56	12
27	1.50–3.00	0.825	96	14
28	2.00–2.99	0.843	62	7

29	2.53–3.40	0.869	51	8
30	3.00–3.99	0.823	45	5
31	4.00–4.99	0.836	26	3
32	5.00–5.99	0.573	16	0
33	6.00–7.9	0.810	19	0
34	8.0–13.9	0.968	8	1
WWS (ms^{-1}) at 500 m				
35	1.38–3.90	0.805	42	5
36	3.00–4.00	0.843	41	6
37	4.00–4.99	0.851	54	3
38	5.00–5.99	0.796	51	7
39	6.00–6.99	0.842	30	6
40	7.00–13.13	0.839	33	4
WPSFC (hPa) at 500 m				
41	996–1010	0.860	49	5
42	1011–1015	0.819	79	12
43	1016–1020:	0.800	72	8
44	1020–1024:	0.850	42	6
45	1020–1023	0.861	37	6
WSH at 500 m				
46	2.30–4.00	0.782	26	1
47	4.00–5.50	0.715	28	2
48	5.00–6.00:	0.875	29	5
49	6.00–7.00:	0.817	35	10
50	7.00–7.99	0.885	29	5
51	8.00–9.00	0.829	20	2
52	9.00–11.00	0.822	40	2
53	11.00–13.00	0.899	30	3
54	12.00–1600	0.921	21	3
WPBLH (m) at 500 m				
55	48–199	0.806	49	4
56	200–344	0.829	38	3
57	264–390	0.853	48	7
58	300–390	0.884	35	6
59	300–449	0.875	62	11
60	400–496	0.851	46	10
61	450–546	0.813	51	8
62	500–599	0.751	47	3
63	550–699	0.786	35	4
64	607–799	0.811	31	4
65	700–835	0.533	13	0

SWD (degree)				
66	271-90	0.828	148	17
67	91-270	0.822	79	8
68	01-180	0.824	206	22
69	181-360	0.822	26	5
70	0-90	0.824	139	14
71	91-180	0.834	62	06
72	315-45	0.858	39	10
73	46-135	0.789	153	10
74	136-225	0.827	26	04
75	226-314	0.864	09	02
76	226-45	0.850	48	12