

APPENDIX A: Meteorological Stations

Table A1: Monitoring stations in Rayong area, considered in the study

Station	Longitude (deg.)	Latitude (deg.)	Variable	Measurement Height (m AGL)	Instrument
PCD-M2	101.143	12.729	Wind speed and direction	10, 50, 100	Ultrasonic sensor
			Temperature	2, 50, 75	Thermistor
PCD-31	101.136	12.735	Global solar radiation	3	Pyranometer

**Table A2: Monthly statistics for global solar radiation ($W m^{-2}$) at PCD-31 over
2001-2006**

Month	Daytime Average	Missing (%)
Jan.	420	0.3
Feb.	433	1.4
Mar.	449	1.9
Apr.	511	0.4
May	434	1.9
Jun.	422	5.7
Jul.	413	2.0
Aug.	403	0.6
Sep.	408	3.7
Oct.	406	3.8
Nov.	433	0.3
Dec.	422	1.4

Table A3: Monthly statistics for 2-m temperature (°C) at PCD-M2 over 2001-2006

Month	Average	Minimum	Maximum	Missing (%)
Jan.	25.7	16.5	33.1	1.0
Feb.	27.2	18.2	34.1	0.9
Mar.	28.0	18.9	35.5	22.9
Apr.	29.0	18.8	37.6	12.1
May	28.4	18.5	34.7	23.3
Jun.	28.2	22.5	34.8	6.3
Jul.	27.7	13.4	33.9	3.3
Aug.	27.8	22.1	33.5	3.1
Sep.	27.3	22.0	32.9	19.2
Oct.	26.5	14.3	32.9	2.3
Nov.	26.4	10.2	34.1	15.2
Dec.	25.8	17.5	33.8	19.7

Table A4: Monthly statistics for 75-m temperature (°C) at PCD-M2 over 2001-2006

Month	Average	Minimum	Maximum	Missing (%)
Jan.	26.0	19.1	31.5	0.3
Feb.	26.7	18.9	32.5	1.9
Mar.	27.4	18.7	33.8	22.8
Apr.	28.5	22.5	35.4	12.9
May	28.2	22.5	32.7	25.0
Jun.	28.0	22.1	32.4	7.6
Jul.	27.6	21.1	32.5	8.8
Aug.	27.5	20.1	31.7	3.0
Sep.	27.2	22.5	33.4	19.0
Oct.	26.8	17.1	31.7	2.0
Nov.	26.7	19.1	32.8	8.6
Dec.	26.2	17.8	31.5	19.6

**Table A5: Monthly statistics for sea surface temperature (°C) near the Rayong coast
over 2001-2006**

Month	Average	Minimum	Maximum
Jan.	27.6	26.5	29.2
Feb.	28.2	26.6	29.7
Mar.	29.0	27.6	30.3
Apr.	30.3	29.0	31.3
May	30.6	28.3	32.4
Jun.	29.8	28.7	30.8
Jul.	29.5	28.6	30.7
Aug.	29.1	28.0	30.1
Sep.	29.2	28.1	30.3
Oct.	29.4	28.2	30.3
Nov.	29.2	27.1	30.9
Dec.	28.3	14.2	30.4

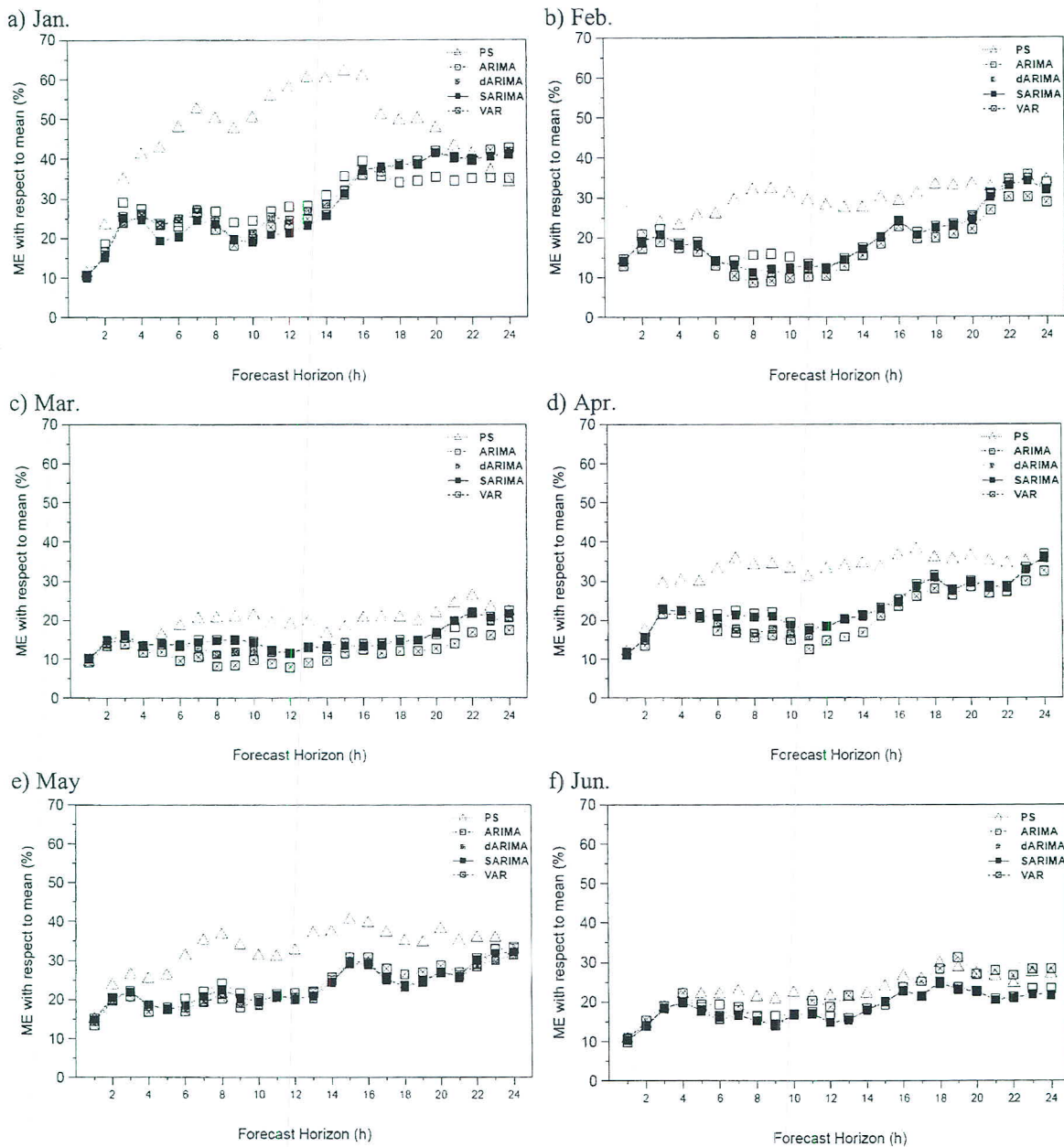
APPENDIX B: Additional information of performance evaluation

Table B1: Monthly mean error (m s^{-1}) of wind speed forecast over 2005-2006

Month	PS	ARIMA	dARIMA	SARIMA	VAR
Jan.	2.25	1.40	1.42	1.36	1.42
Feb.	1.68	1.17	1.09	1.10	1.09
Mar.	1.65	1.10	1.06	1.10	1.03
Apr.	1.82	1.27	1.21	1.25	1.15
May	1.91	1.36	1.31	1.33	1.45
Jun.	1.56	1.29	1.24	1.24	1.53
Jul.	1.57	1.31	1.26	1.30	1.34
Aug.	1.39	1.23	1.15	1.21	1.23
Sep.	1.78	1.44	1.32	1.40	1.31
Oct.	1.86	1.59	1.33	1.33	1.57
Nov.	1.76	1.57	1.67	1.59	1.55
Dec.	2.07	1.71	1.50	1.48	1.83
All	1.77	1.36	1.29	1.31	1.37

Table B2: Monthly correlation between observed and forecast wind speeds over 2005-2006

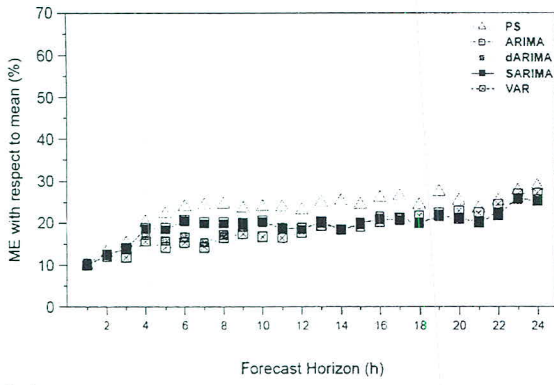
Month	PS	ARIMA	dARIMA	SARIMA	VAR
Jan.	0.26	0.42	0.35	0.39	0.34
Feb.	0.28	0.32	0.43	0.41	0.45
Mar.	0.21	0.32	0.37	0.31	0.46
Apr.	0.23	0.37	0.43	0.39	0.45
May	0.27	0.52	0.55	0.54	0.41
Jun.	0.59	0.65	0.68	0.67	0.41
Jul.	0.56	0.55	0.57	0.55	0.58
Aug.	0.58	0.55	0.61	0.56	0.52
Sep.	0.47	0.37	0.50	0.42	0.51
Oct.	0.38	0.37	0.49	0.49	0.38
Nov.	0.64	0.47	0.66	0.68	0.49
Dec.	0.61	0.58	0.67	0.68	0.51
All	0.46	0.54	0.60	0.59	0.52



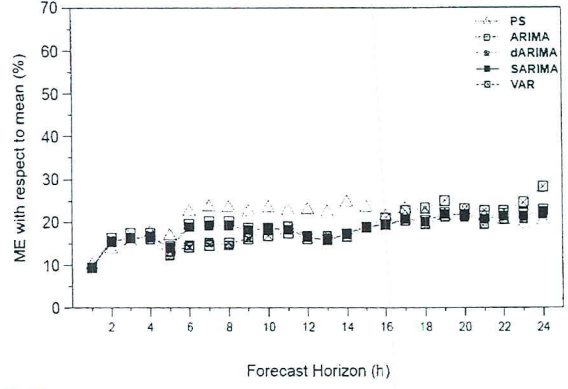
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Figure B1: Percentage of ME with respect to mean over forecast hours, based on all forecast episodes

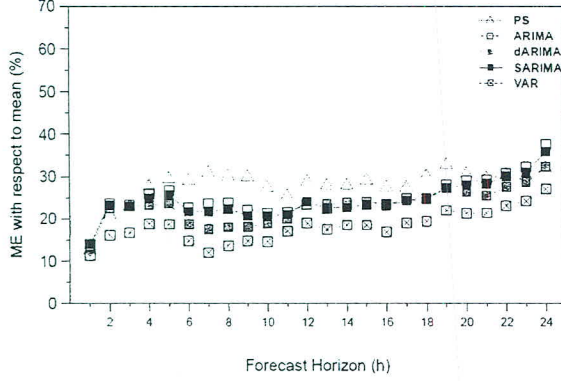
g) Jul.



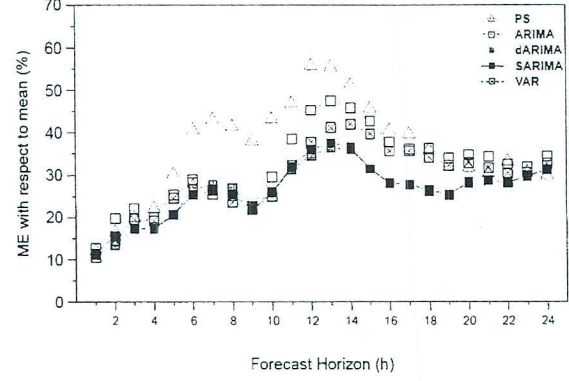
h) Aug.



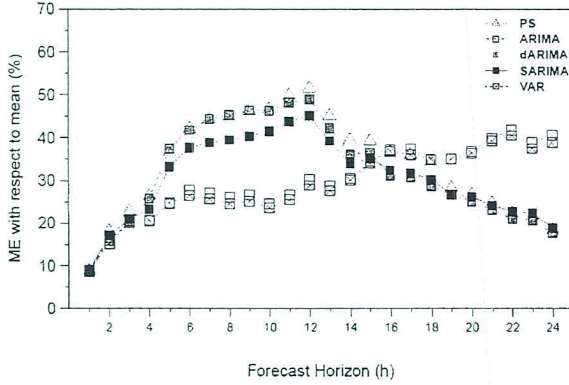
i) Sep.



j) Oct.



k) Nov.



l) Dec.

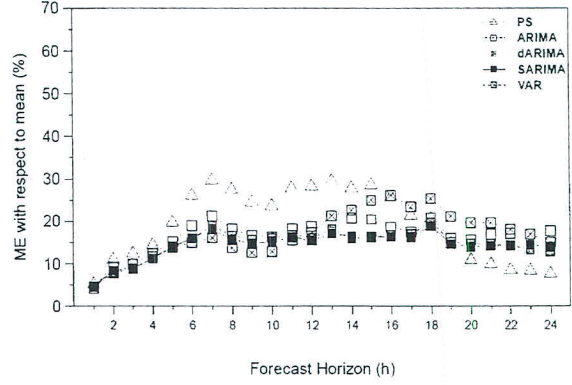
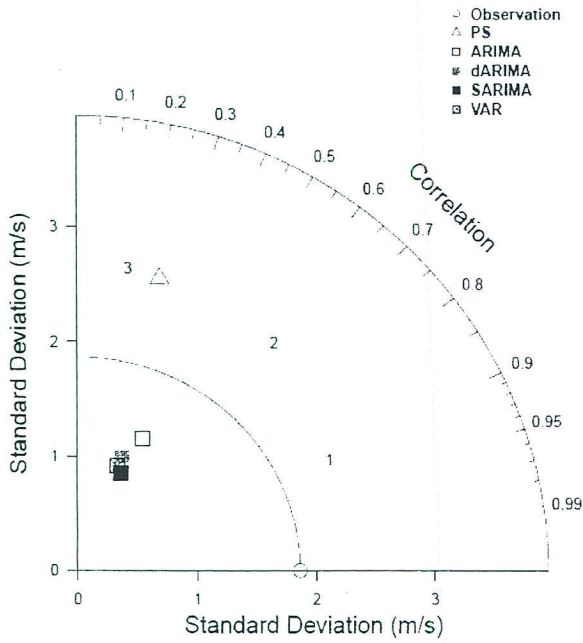
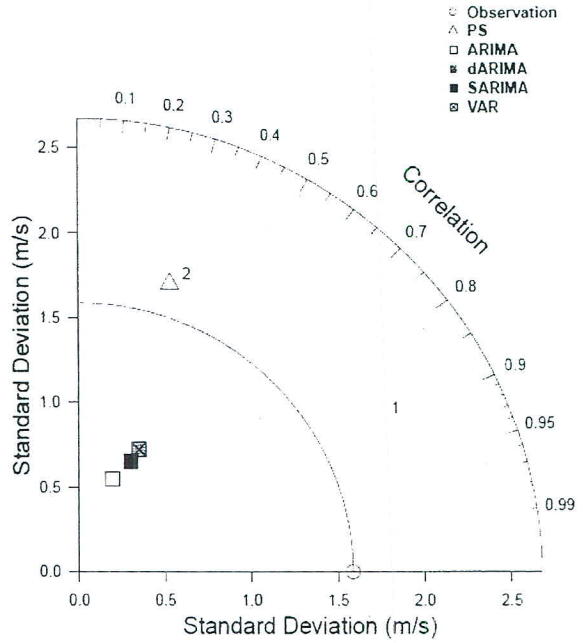


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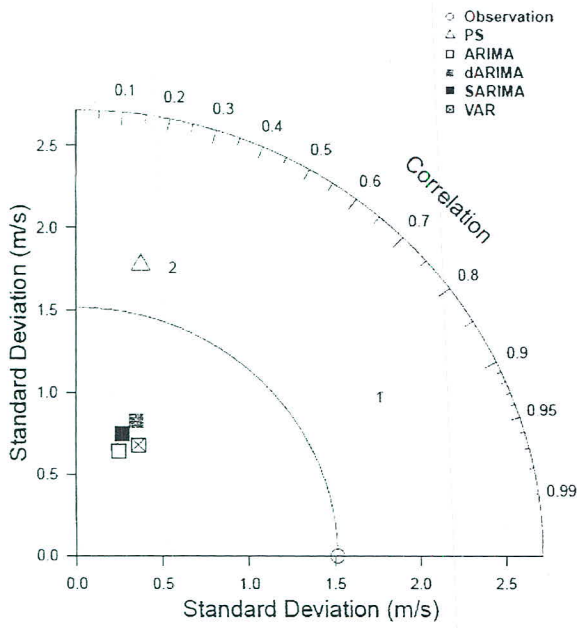
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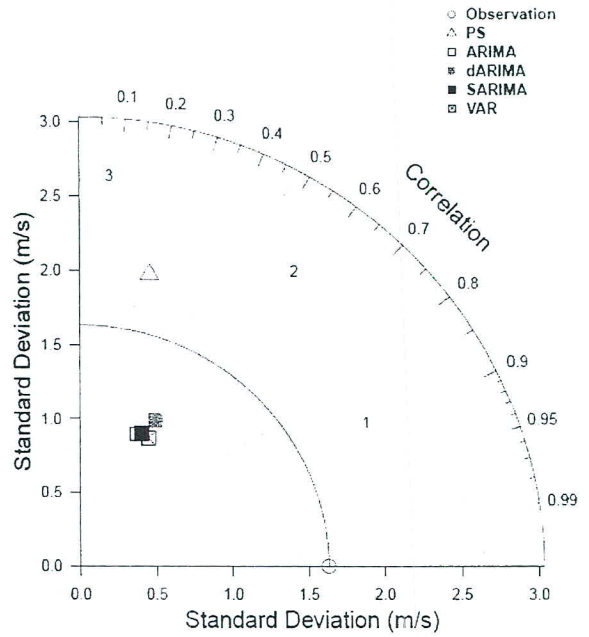
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c) Mar.



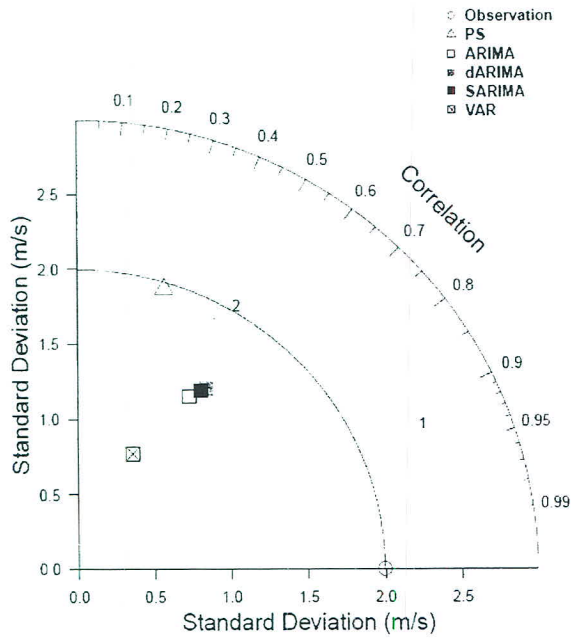
d) Apr.



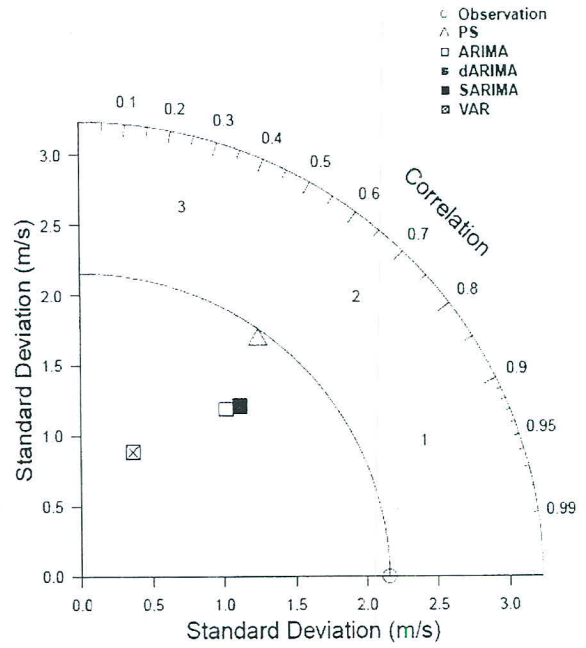
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Figure B2: Monthly Taylor diagrams

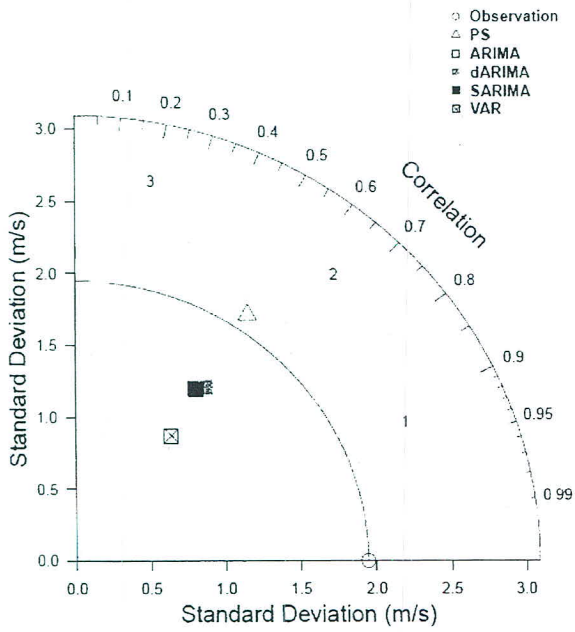
e) May



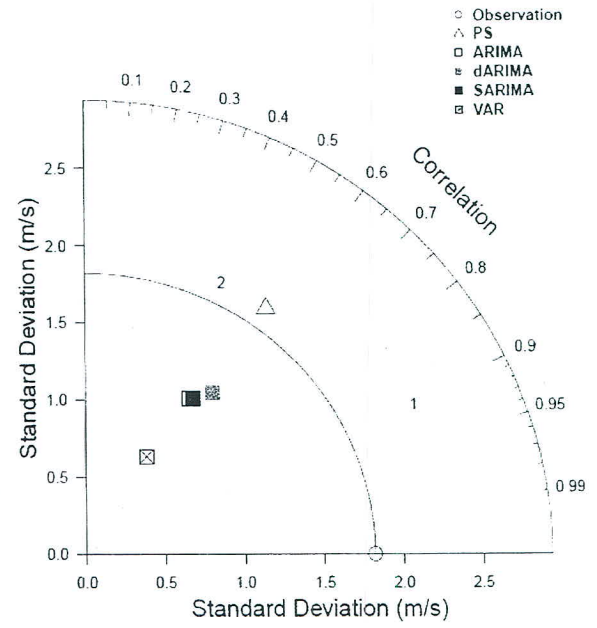
f) Jun.



g) Jul.



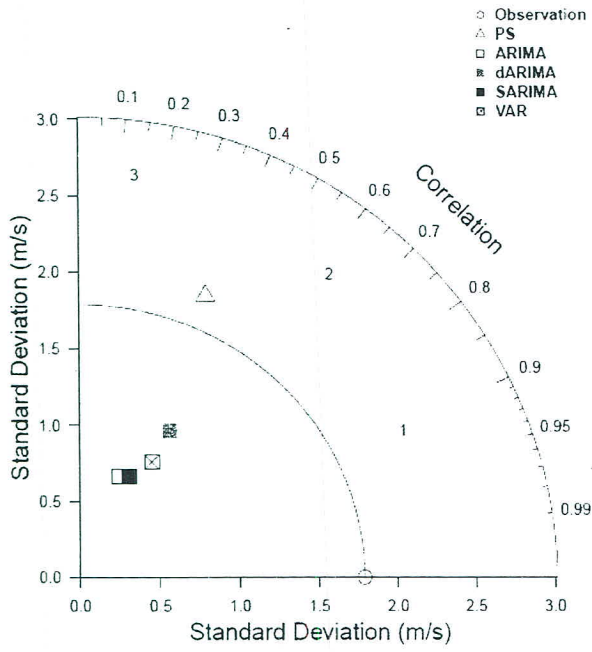
h) Aug.



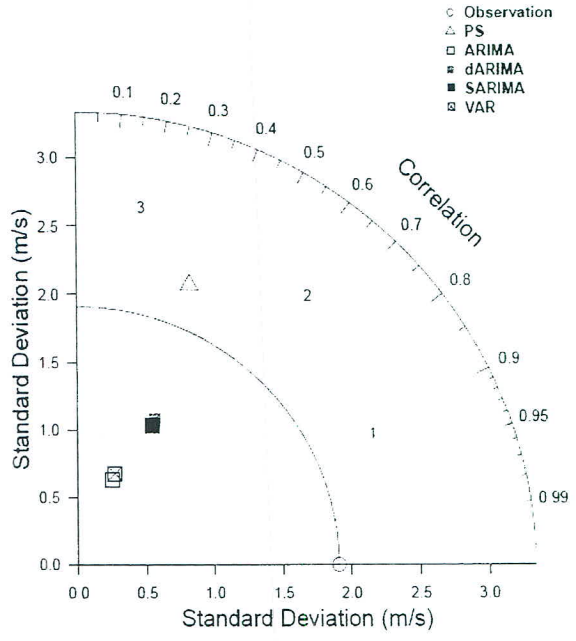
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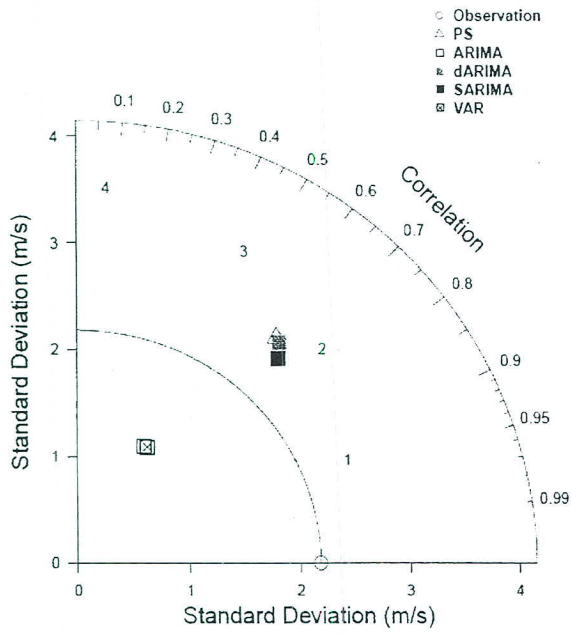
i) Sep.



j) Oct.



k) Nov.



l) Dec.

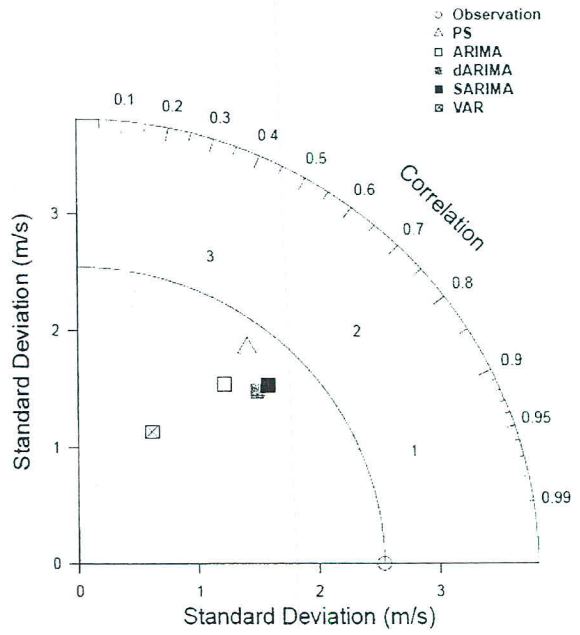


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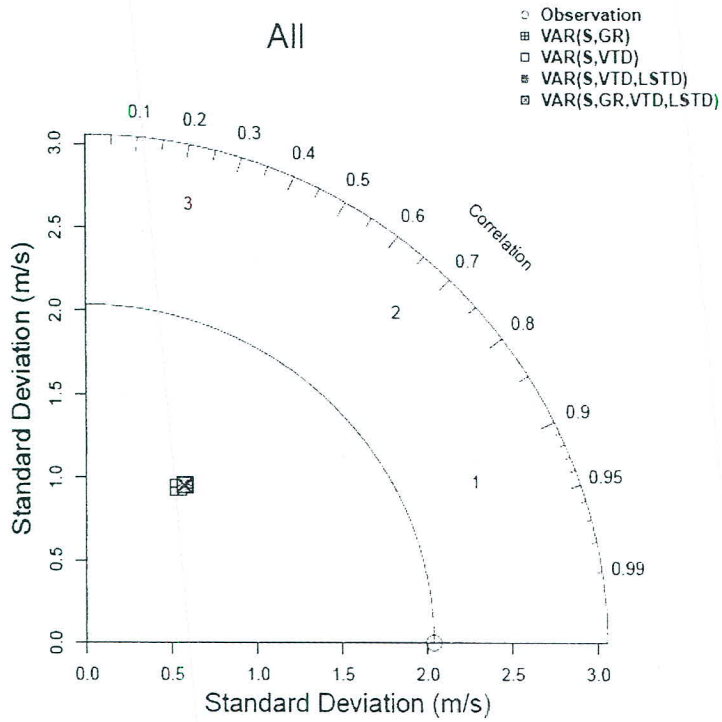


Figure B3: Taylor diagram for VAR models considering different variables based on evaluation period

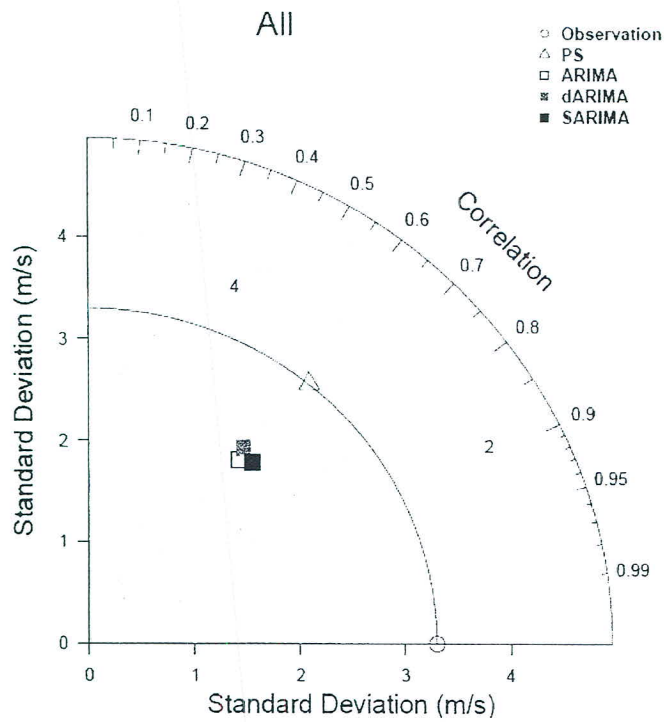


Figure B4: Taylor diagram for models for an on-hill site in Nakhon Ratchasima province, Thailand