SVR+
1. 西班牙数据集
1.1 Privileged Information = Wind_Power_train (t)
1.2 Privileged Information = Wind_Speed_train (t), sin(Wind_Direction_train) (t)
2. 美国数据集
1.1 Privileged Information = Wind_Power_train (t)
1.2 Privileged Information = Wind_Speed_train (t), sin(Wind_Direction_train) (t)

SVR+

1. 西班牙数据集

1.1 Privileged Information = Wind_Power_train (t)

train index: [6426, 10427] train_len: 4000 test index: [14389, 15390] test_len: 1000

- **输入特征：**

```
'wind_speed', 'sin(wd)', 'cos(wd)', 【t期】
'wind_speed-1', 'sin(wd)-1','cos(wd)-1', 'wind_power-1'【t-1期】
```

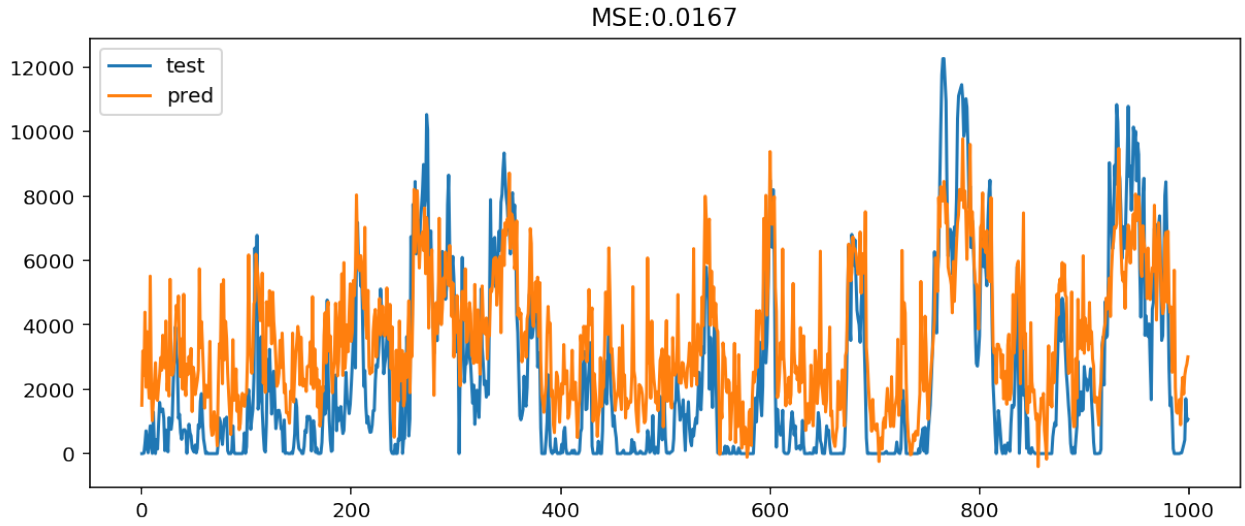
- **Privileged Information**: Wind_Power (t)【即 Y_train】
- svr+ 参数设置（默认参数）：
  - 【训练时间过长 不易调参；若将训练数据长度降至 2000，测试 mse 为0.03421，非常不理想】

```
Parameters = {'C': 10,
              'gamma_corSpace': 10,
              'gamma_rbf': 1,
              'gamma_rbf_corSpace': 10,
              'epsilon': 0.1,
              'tol': 0.0001}
```

- **输出：** Wind_Power

训练时间：65 mins

测试 mse：0.01667742097965347



1.2 Privileged Information = Wind_Speed_train (t), sin(Wind_Direction_train) (t)

train index: [6426, 10427] train_len: 4000 test index: [14389, 15390] test_len: 1000

- **输入特征：**

```
'wind_speed', 'sin(wd)', 'cos(wd)', 【t期】
'wind_speed-1', 'sin(wd)-1','cos(wd)-1', 'wind_power-1'【t-1期】
```

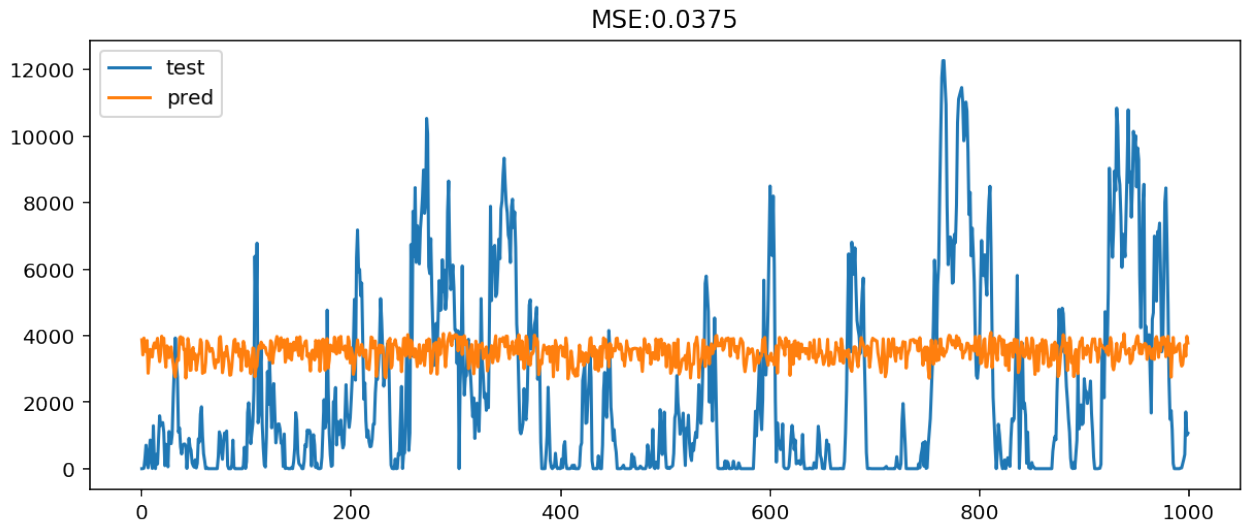
- **Privileged Information**: Wind_Speed_train (t), sin(Wind_Direction_train) (t)
- svr+ 参数设置（默认参数）

```
Parameters = {'C': 10,
              'gamma_corSpace': 10,
              'gamma_rbf': 1,
              'gamma_rbf_corSpace': 10,
              'epsilon': 0.1,
              'tol': 0.0001}
```

- **输出：** Wind_Power

训练时间：57 mins

测试 mse： 0.03748050291635869



2. 美国数据集

1.1 Privileged Information = Wind_Power_train (t)

train index: [3001, 7002] train_len: 4000 test index: [2000, 3001] test_len: 1000

- **输入特征：**

```
'wind_speed', 'sin(wd)', 'cos(wd)', 【t期】
'wind_speed-1', 'sin(wd)-1','cos(wd)-1', 'wind_power-1'【t-1期】
```

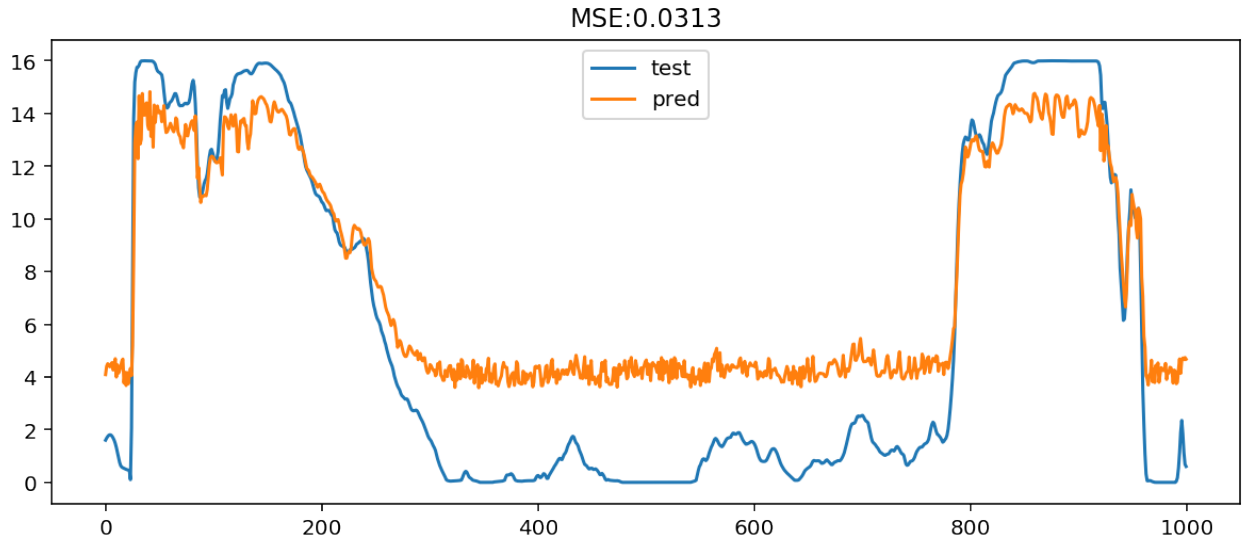
- **Privileged Information**: Wind_Power (t)【即 Y_train】
- svr+ 参数设置（默认参数）：
  - 【训练时间过长 不易调参；若将训练数据长度降至 2000，测试 mse 为0.03421，非常不理想】

```
Parameters = {'C': 10,
              'gamma_corSpace': 10,
              'gamma_rbf': 1,
              'gamma_rbf_corSpace': 10,
              'epsilon': 0.1,
              'tol': 0.0001}
```

- **输出：** Wind_Power

训练时间：53 mins

测试 mse：0.03130679323067965



1.2 Privileged Information = Wind_Speed_train (t), sin(Wind_Direction_train) (t)

train index: [6426, 10427] train_len: 4000 test index: [14389, 15390] test_len: 1000

- **输入特征：**

```
'wind_speed', 'sin(wd)', 'cos(wd)', 【t期】
'wind_speed-1', 'sin(wd)-1','cos(wd)-1', 'wind_power-1'【t-1期】
```

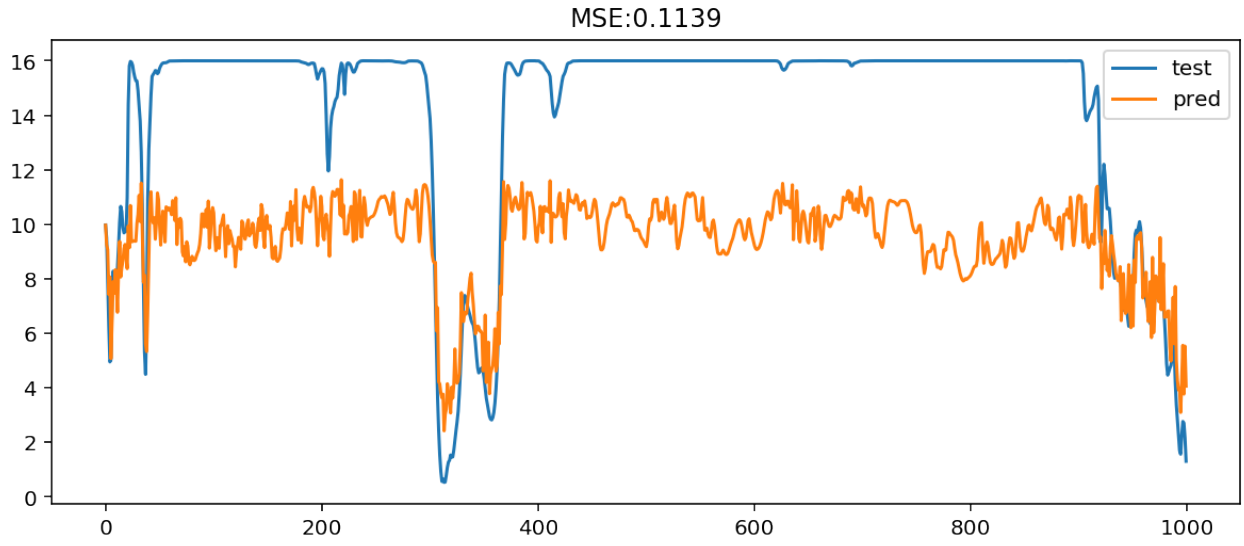
- **Privileged Information**: Wind_Speed_train (t), sin(Wind_Direction_train) (t)
- svr+ 参数设置（默认参数）

```
Parameters = {'C': 10,
              'gamma_corSpace': 10,
              'gamma_rbf': 1,
              'gamma_rbf_corSpace': 10,
              'epsilon': 0.1,
              'tol': 0.0001}
```

- **输出：** Wind_Power

训练时间：65 mins

测试 mse： 0.11394138700050119


MSE:0.1139
test
pred
16
14
12
10
8
6
4
2
0
0
200
400
600
800
1000