Parallel all papers PLS for corn data

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1 A Partial Least Squares-Based Consensus Regression Method for the Analysis of Near-Infrared Complex Spectral Data of Plant Samples

60-20 10

1~mp6 0.159

```
## 0.1256011 0.1446034 0.1636058
```

```
##    user  system elapsed
##   0.004   0.000   8.485
```

1 A Partial Least Squares-Based Consensus Regression Method for the Analysis of Near-Infrared Complex Spectral Data of Plant Samples

60-20 10

2~mp6 0.107

```
## 0.07574947 0.09225961 0.1087698
```

```
##    user  system elapsed
##   0.003   0.000   7.797
```

1 A Partial Least Squares-Based Consensus Regression Method for the Analysis of Near-Infrared Complex Spectral Data of Plant Samples

60-20 10

3~mp6 0.150

```
## 0.1211307 0.1400926 0.1590544
```

```
##    user  system elapsed
##   0.002   0.001   7.806
```

1 A Partial Least Squares-Based Consensus Regression Method for the Analysis of Near-Infrared Complex Spectral Data of Plant Samples

60-20 10

4~mp6 0.370

```
## 0.2810027 0.3436289 0.4062551
```

```
##    user  system elapsed
##   0.002   0.000   7.866
```

2 A strategy that iteratively retains informative variables for selecting optimal variable subset in multivariate calibration

64-16 9 CV=5

1~m5 RMSEC = 0.0149; RMSEP = 0.0201

```
## 0.01414407 0.01488358 0.01562309
## 0.01785818 0.02113168 0.02440518
```

```
##    user  system elapsed
##   0.002   0.000   2.847
```

3 Cross-validation for the selection of spectral variables using the successive projections algorithm

60-20 SavitzkyGolay filler (in) 3-fold but Loo better

1~m5 0.040(5)

```
## 0.04618993 0.05628462 0.06637931
```

```
##    user  system elapsed
##   0.002   0.001   2.824
```

3 Cross-validation for the selection of spectral variables using the successive projections algorithm

60-20 SavitzkyGolay filler (in) 3-fold

2~m5 0.029(12)

```
## 0.02556898 0.03163213 0.03769527
```

```
##    user  system elapsed
##   0.003   0.001   2.266
```

3 Cross-validation for the selection of spectral variables using the successive projections algorithm

60-20 SavitzkyGolay filler (in) 3-fold

3~m5 0.119(6)

```
## 0.09172021 0.1085697 0.1254193
```

```
##    user  system elapsed
##   0.003   0.001   1.662
```

3 Cross-validation for the selection of spectral variables using the successive projections algorithm

60-20 SavitzkyGolay filler (in) 3-fold but Loo better

4~m5 0.196(6)

```
## 0.194809 0.2371506 0.2794922
```

```
##    user  system elapsed
##   0.003   0.000   3.191
```

4 Reduced PCR/PLSR models by subspace projections

40-40 Scale 12

1~m5 0.3506

```
## 0.0486035 0.05862355 0.06864359
```

```
##    user  system elapsed
##   0.002   0.000  10.493
```

4 Reduced PCR/PLSR models by subspace projections

40-40 Scale 14

2~m5 0.6912

```
## 0.3265439 0.3891674 0.451791
```

```
##    user  system elapsed
##   0.003   0.000  11.629
```

4 Reduced PCR/PLSR models by subspace projections

40-40 Scale 8

3~m5 0.4466

```
## 0.3044049 0.3554446 0.4064842
```

```
##    user  system elapsed
##   0.003   0.000   8.885
```

4 Reduced PCR/PLSR models by subspace projections

40-40 Scale 9

4~m5 0.5010

```
## 0.3236412 0.3878001 0.4519591
```

```
##    user  system elapsed
##   0.003   0.000   9.359
```

5 Stability competitive adaptive reweighted sampling (SCARS) and its applications to multivariate calibration of NIR spectra

40-40 Scale 10

1~mp5 0.357

```
## 0.351693 0.4023674 0.4530417
```

```
##    user  system elapsed
##   0.002   0.000   9.622
```

6 Pretreating near infrared spectra with fractional order Savitzky–Golay differentiation (FOSGD)

64-16 savitzkyGolay filler=(0,2,13) 7 5-fold

2~m5 RMSECV=0.0729; RMSECP=0.0855

```
## 0.07854354 0.08331678 0.08809002
## 0.06289402 0.07401861 0.0851432
```

```
##    user  system elapsed
##   0.003   0.001   1.844
```

6 Pretreating near infrared spectra with fractional order Savitzky–Golay differentiation (FOSGD)

64-16 savitzkyGolay filler=(1,2,13) 7 5-fold

2~m5 RMSECV=0.0577; RMSECP=0.0682

```
## 0.06056344 0.06403154 0.06749964
## 0.04380332 0.05660701 0.06941071
```

```
##    user  system elapsed
##   0.002   0.001   1.790
```

6 Pretreating near infrared spectra with fractional order Savitzky–Golay differentiation (FOSGD)

64-16 savitzkyGolay filler=(2,2,13) 7 5-fold

2~m5 RMSECV=0.0370; RMSECP=0.0397

```
## 0.04456905 0.04751603 0.05046302
## 0.02573535 0.03468245 0.04362954
```

```
##    user  system elapsed
##   0.002   0.000   1.808
```

6 Pretreating near infrared spectra with fractional order Savitzky–Golay differentiation (FOSGD)

64-16 savitzkyGolay filler=(0,2,7) 8 5-fold

4~m5 RMSECV=0.312; RMSECP=0.214

```
## 0.3083299 0.3322749 0.3562199
## 0.2298559 0.2890035 0.348151
```

```
##    user  system elapsed
##   0.003   0.001   1.875
```

6 Pretreating near infrared spectra with fractional order Savitzky–Golay differentiation (FOSGD)

64-16 savitzkyGolay filler=(1,2,7) 8 5-fold

4~m5 RMSECV=0.248; RMSECP=0.221

```
## 0.224279 0.2426438 0.2610087
## 0.1898107 0.2287837 0.2677568
```

```
##    user  system elapsed
##   0.003   0.000   1.899
```

6 Pretreating near infrared spectra with fractional order Savitzky–Golay differentiation (FOSGD)

64-16 savitzkyGolay filler=(2,2,7) 8 5-fold

4~m5 RMSECV=0.347; RMSECP=0.228

```
## 0.301657 0.3216974 0.3417377
## 0.2479601 0.3037632 0.3595663
```

```
##    user  system elapsed
##   0.002   0.000   1.897
```

7 A variable elimination method to improve the parsimony of MLR models using the successive projections algorithm

60-20 savitzkyGolay filler=(1,2,21) (in)

1~m5 0.045(06)

```
## 0.03296515 0.04043771 0.04791027
```

```
##    user  system elapsed
##   0.002   0.001   5.779
```

7 A variable elimination method to improve the parsimony of MLR models using the successive projections algorithm

60-20 savitzkyGolay=(1,2,21) (in)

2~m5 0.028(10)

```
## 0.04105296 0.04937681 0.05770065
```

```
##    user  system elapsed
##   0.002   0.000   8.142
```

7 A variable elimination method to improve the parsimony of MLR models using the successive projections algorithm

60-20 None (m) savitzkyGolay=(1,2,21)

3~m5 0.110(07)

```
## 0.08351896 0.1021954 0.1208718
```

```
##    user  system elapsed
##   0.002   0.000   6.395
```

7 A variable elimination method to improve the parsimony of MLR models using the successive projections algorithm

60-20 None (m) savitzkyGolay=(1,2,21)

4~m5 0.228(05)

```
## 0.2129844 0.2630782 0.3131719
```

```
##    user  system elapsed
##   0.003   0.001   5.361
```

8 Using consensus interval partial least square in near infrared spectra analysis

52-26 Delete 75 , 77; 10

1~m5 RMSECV=0.0124; RMSEP=0.0157

```
## 0.02005084 0.02177367 0.0234965
## 0.01739725 0.0197695 0.02214175
```

```
##    user  system elapsed
##   0.002   0.000   1.447
```

8 Using consensus interval partial least square in near infrared spectra analysis

52-26 Delete 75 , 77; 13

2~m5 RMSECV=0.0613; RMSEP=0.0673

```
## 0.0583368 0.06621319 0.07408957
## 0.04919054 0.05955603 0.06992151
```

```
##    user  system elapsed
##   0.002   0.000   1.064
```

8 Using consensus interval partial least square in near infrared spectra analysis

52-26 Delete 75 , 77 13

3~m5 RMSECV=0.1080; RMSEP=0.1353

```
## 0.1031943 0.1194857 0.1357772
## 0.09874611 0.1123115 0.1258769
```

```
##    user  system elapsed
##   0.002   0.000   1.767
```

8 Using consensus interval partial least square in near infrared spectra analysis

52-26 Delete 75 , 77 10

4~m5 RMSECV=0.2579; RMSEP=0.2356

```
## 0.2649257 0.2937006 0.3224755
## 0.2286916 0.2723313 0.315971
```

```
##    user  system elapsed
##   0.003   0.000   1.452
```