# Regressors for Le Petit Prince.

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For each session, we load the design matrix, plot the regressors (Note: All the variables are scaled, and shifted relative to one another for the plotting), and print the pairwise correlations and the variance inflation factors.

```r
par(mar=c(5.1, 4.1, 4.1, 8.1), xpd=TRUE)
for (i in 1:9)
{
  m = a[[i]]
  matplot(1:nrow(m), scale(m) + matrix(rep(3*(1:ncol(m)), nrow(m)), ncol=ncol(m), byrow=T), type='l', b
  legend('topright', inset=c(-0.35, 0), legend=names(m), lty=1:ncol(m), col=1:ncol(m))
  print('pair-wise correlations: ')
  print(signif(cor(m), 2))
  y = rnorm(nrow(m))
  lmm = lm(y ~ wordrate + rms + f0 + freq + bottomup + mwe, data=m)
  print('Variance Inflation Factors:')
  print(vif(lmm))
}
```
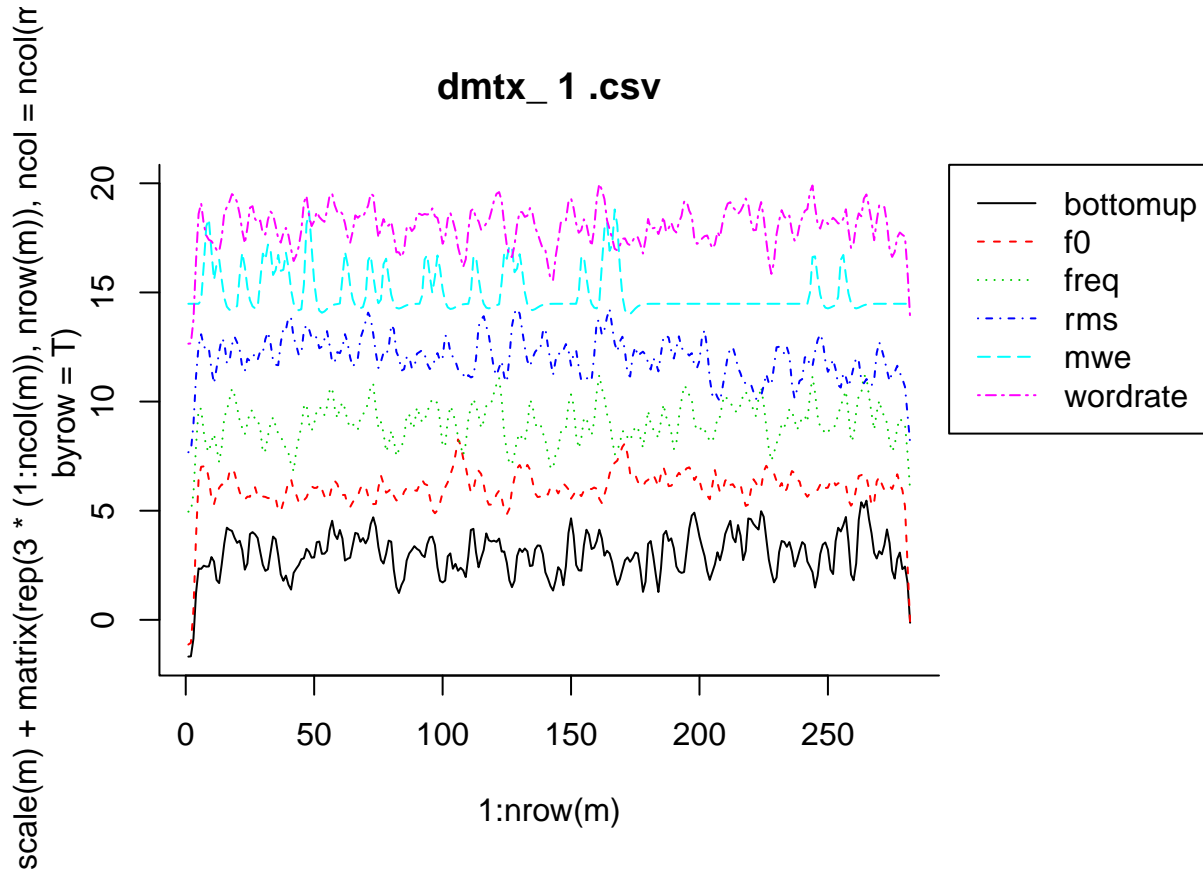
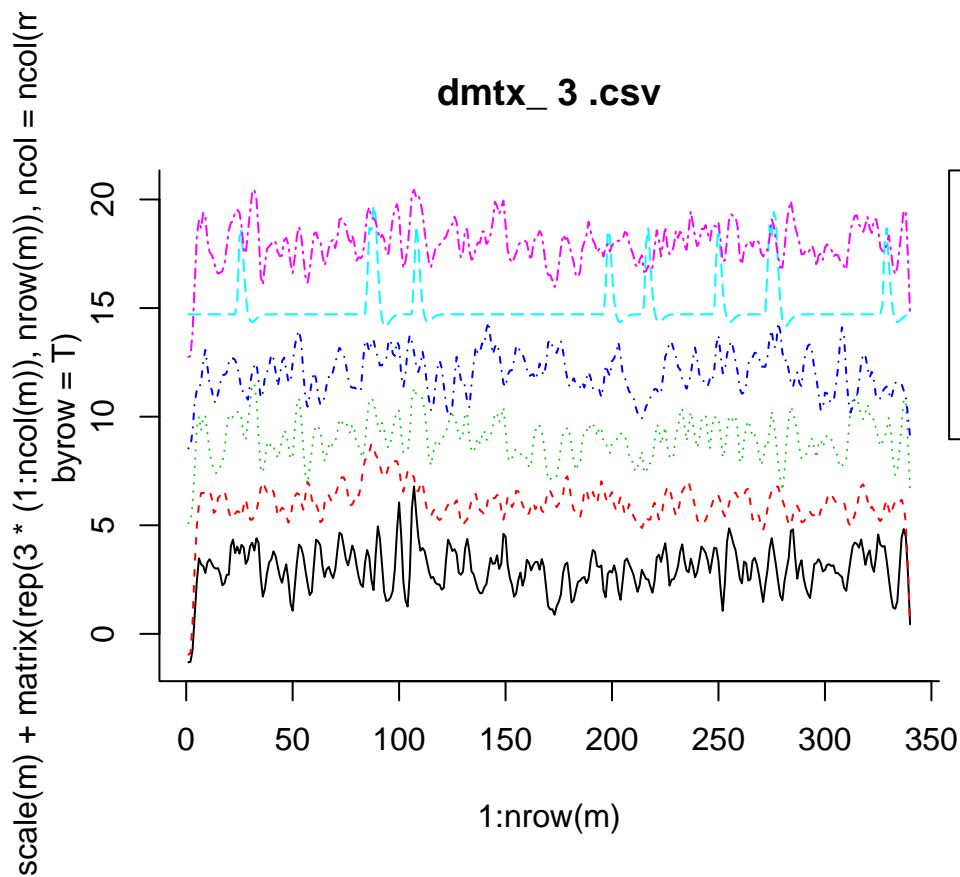

```
## [1] "pair-wise correlations: "
##           bottomup     f0  freq  rms     mwe wordrate
## bottomup      1.00  0.390  0.74 0.13  -0.110    0.720
```

```
## f0             0.39   1.000   0.33 0.42 -0.017      0.440
## freq            0.74   0.330   1.00 0.17 -0.100      0.880
## rms             0.13   0.420   0.17 1.00  0.270      0.400
## mwe            -0.11  -0.017  -0.10 0.27  1.000      0.043
## wordrate         0.72   0.440   0.88 0.40  0.043      1.000
## [1] "Variance Inflation Factors:"
## wordrate        rms         f0       freq bottomup        mwe
## 7.310207 1.711175 1.462701 6.275301 2.511686 1.161759
```


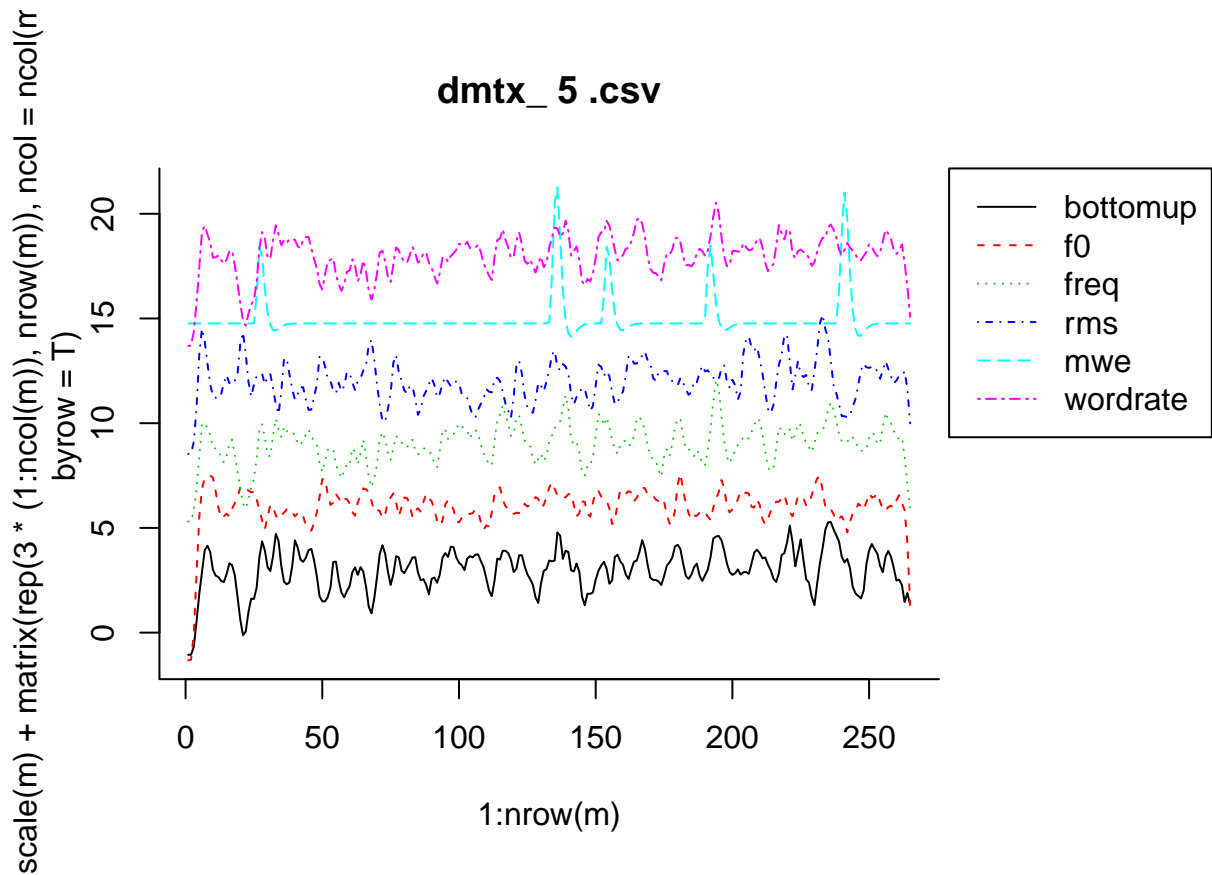**dmtx_ 2 .csv**
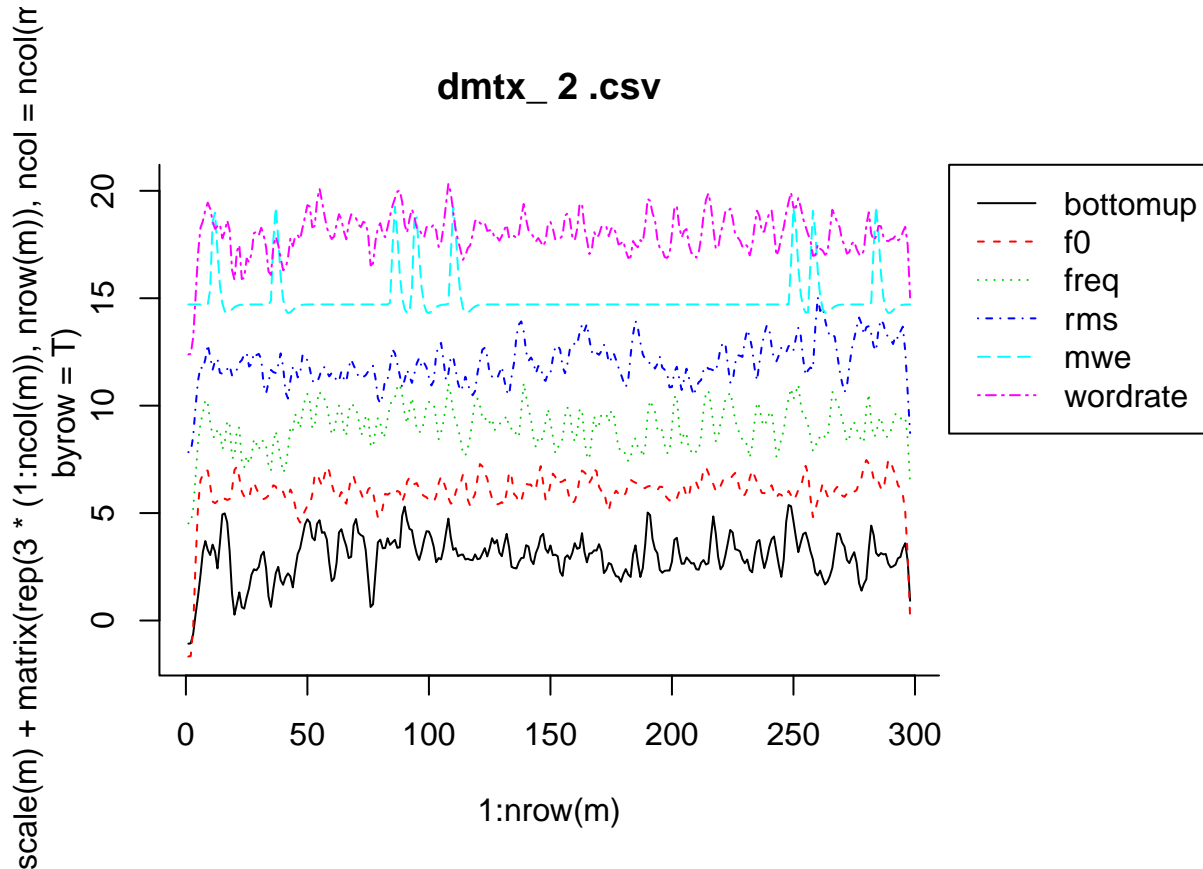
```
## [1] "pair-wise correlations: "
##            bottomup      f0 freq  rms    mwe wordrate
## bottomup     1.000   0.340 0.670 0.09  0.067     0.75
## f0           0.340   1.000 0.430 0.49 -0.043     0.52
## freq         0.670   0.430 1.000 0.26  0.086     0.91
## rms          0.090   0.490 0.260 1.00  0.100     0.30
## mwe          0.067  -0.043 0.086 0.10  1.000     0.15
## wordrate     0.750   0.520 0.910 0.30  0.150     1.00
## [1] "Variance Inflation Factors:"
## wordrate        rms         f0       freq bottomup        mwe
## 9.036999 1.398333 1.742931 6.064610 2.438450 1.092676
```
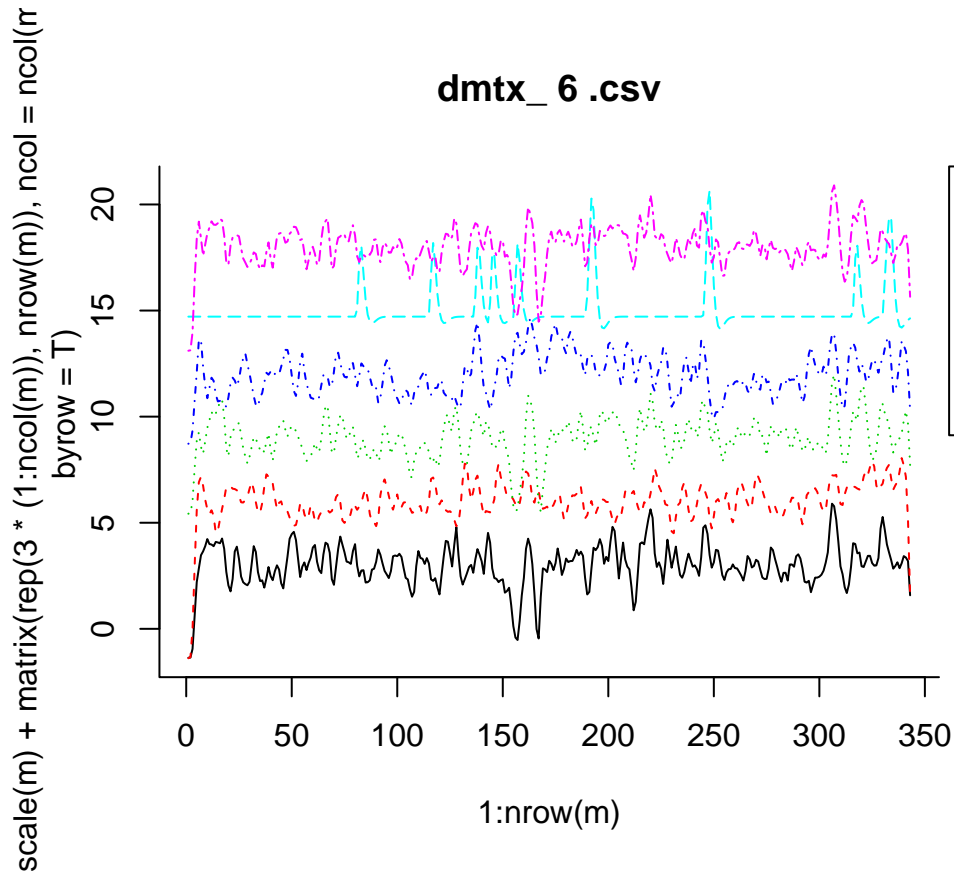
dmtx_ 3 .csv


```
## [1] "pair-wise correlations: "
##           bottomup   f0 freq   rms  mwe wordrate
## bottomup    1.000 0.33 0.73 0.075 0.12     0.75
## f0          0.330 1.00 0.36 0.520 0.18     0.45
## freq        0.730 0.36 1.00 0.240 0.16     0.91
## rms         0.075 0.52 0.24 1.000 0.14     0.37
## mwe         0.120 0.18 0.16 0.140 1.00     0.14
## wordrate    0.750 0.45 0.91 0.370 0.14     1.00
## [1] "Variance Inflation Factors:"
## wordrate      rms        f0     freq bottomup      mwe
## 8.405254 1.707802 1.597058 6.550051 2.608079 1.057986
```

dmtx_ 4 .csv
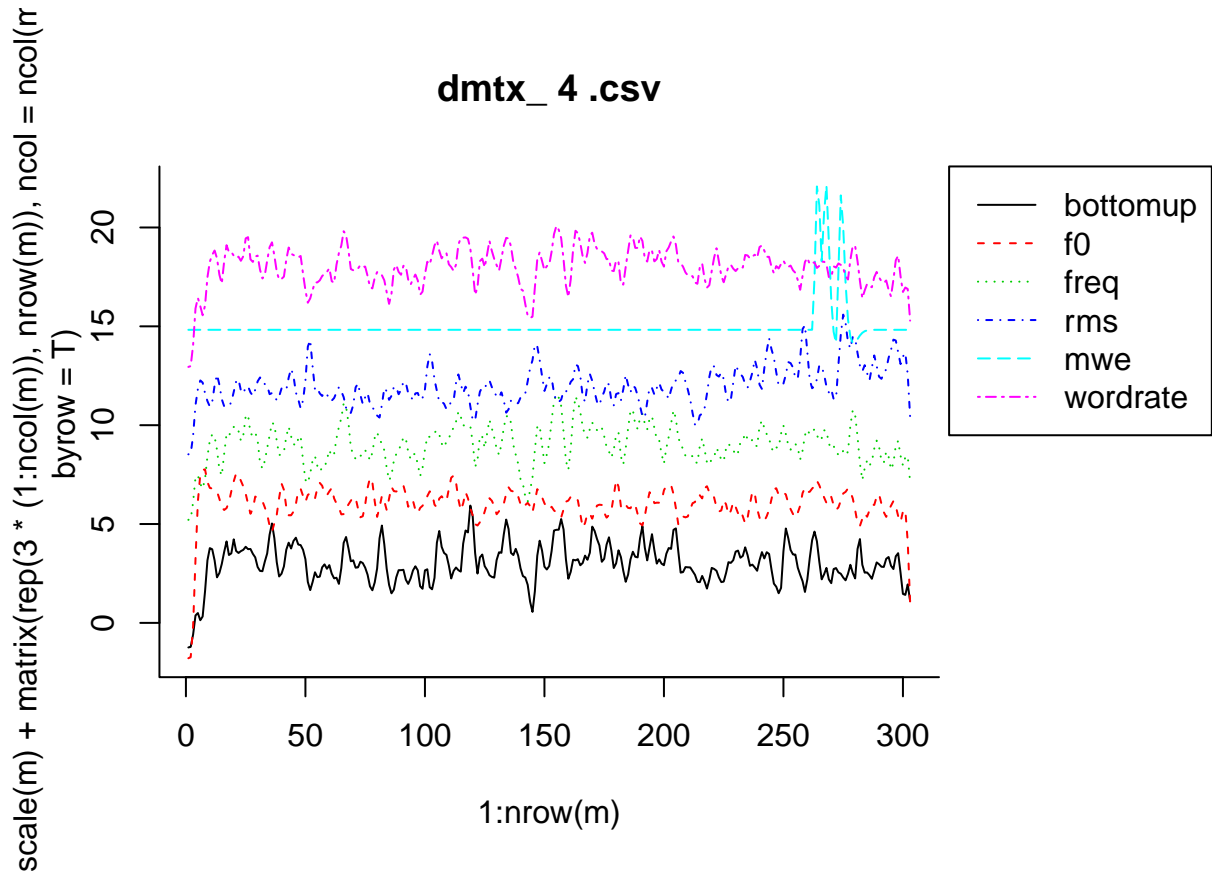
```
## [1] "pair-wise correlations: "
##            bottomup   f0  freq    rms      mwe wordrate
## bottomup     1.000 0.22 0.640 -0.086 -0.03300  0.72000
## f0           0.220 1.00 0.260  0.270  0.10000  0.34000
## freq         0.640 0.26 1.000  0.063  0.02700  0.91000
## rms         -0.086 0.27 0.063  1.000  0.19000  0.09400
## mwe         -0.033 0.10 0.027  0.190  1.00000 -0.00091
## wordrate     0.720 0.34 0.910  0.094 -0.00091  1.00000
## [1] "Variance Inflation Factors:"
## wordrate      rms       f0     freq bottomup      mwe
## 7.544945 1.167029 1.239742 5.850946 2.164448 1.049292
```

dmtx_ 5 .csv

```
## [1] "pair-wise correlations: "
##           bottomup     f0 freq    rms     mwe wordrate
## bottomup     1.00  0.300 0.81  0.160  0.170     0.81
## f0           0.30  1.000 0.38  0.560 -0.041     0.39
## freq         0.81  0.380 1.00  0.270  0.170     0.93
## rms          0.16  0.560 0.27  1.000 -0.019     0.30
## mwe          0.17 -0.041 0.17 -0.019  1.000     0.22
## wordrate     0.81  0.390 0.93  0.300  0.220     1.00
## [1] "Variance Inflation Factors:"
## wordrate      rms       f0     freq bottomup      mwe
## 8.905238 1.529825 1.619615 8.441608 3.195704 1.083213
```
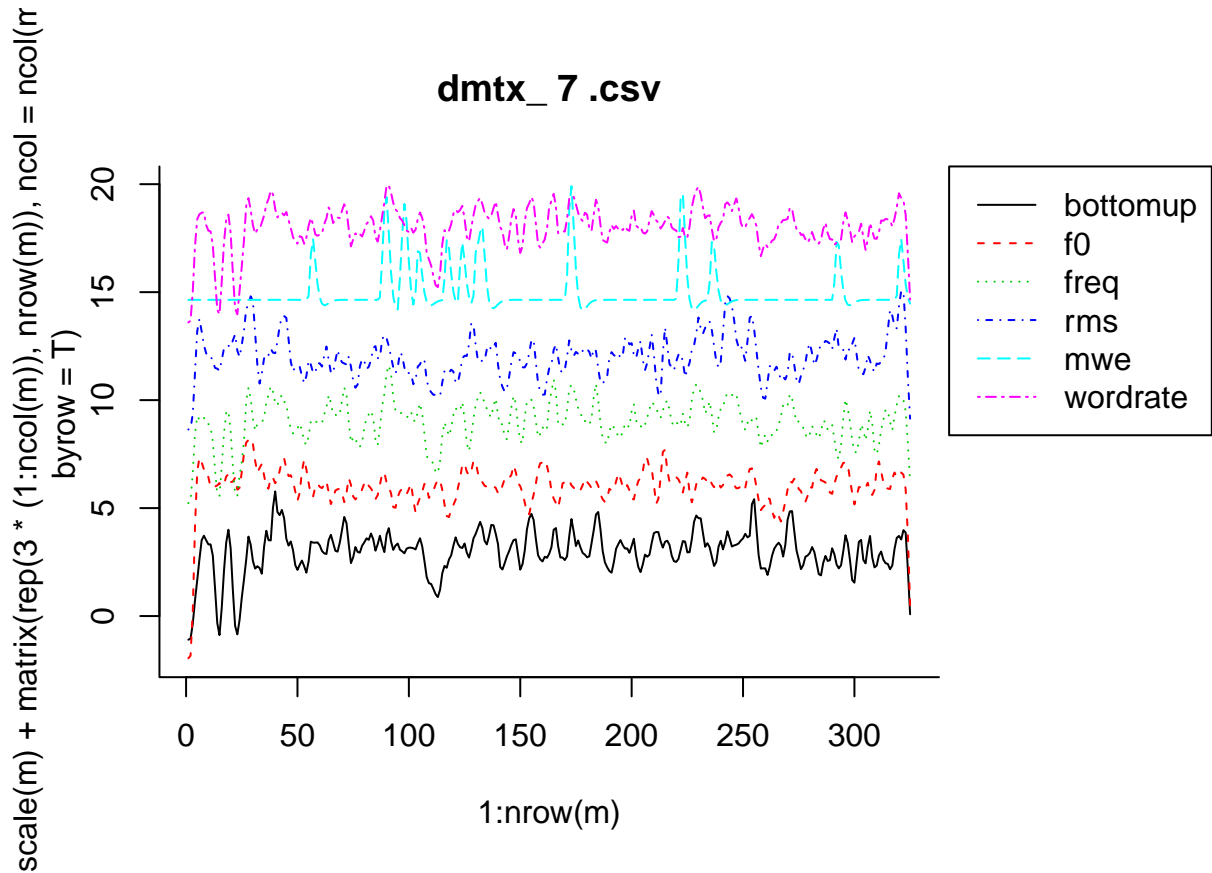
dmtx_ 6 .csv


```
## [1] "pair-wise correlations: "
##          bottomup     f0    freq  rms     mwe wordrate
## bottomup     1.00  0.260   0.770 0.12  -0.020    0.800
## f0           0.26  1.000   0.280 0.48   0.079    0.350
## freq         0.77  0.280   1.000 0.26  -0.024    0.930
## rms          0.12  0.480   0.260 1.00   0.110    0.340
## mwe         -0.02  0.079  -0.024 0.11   1.000   -0.014
## wordrate     0.80  0.350   0.930 0.34  -0.014    1.000
## [1] "Variance Inflation Factors:"
## wordrate       rms        f0     freq bottomup      mwe
## 9.900646  1.512796  1.395352 7.785459 3.018994 1.017517
```
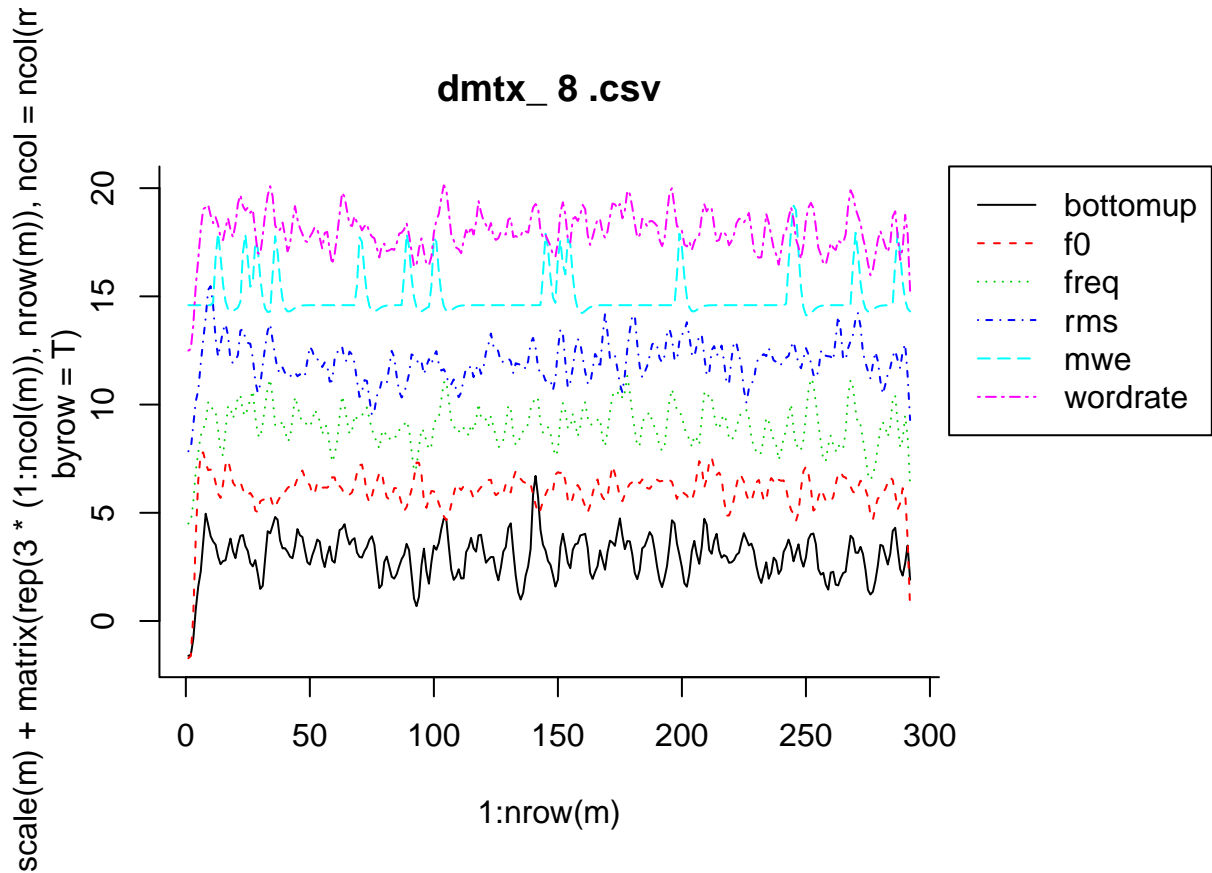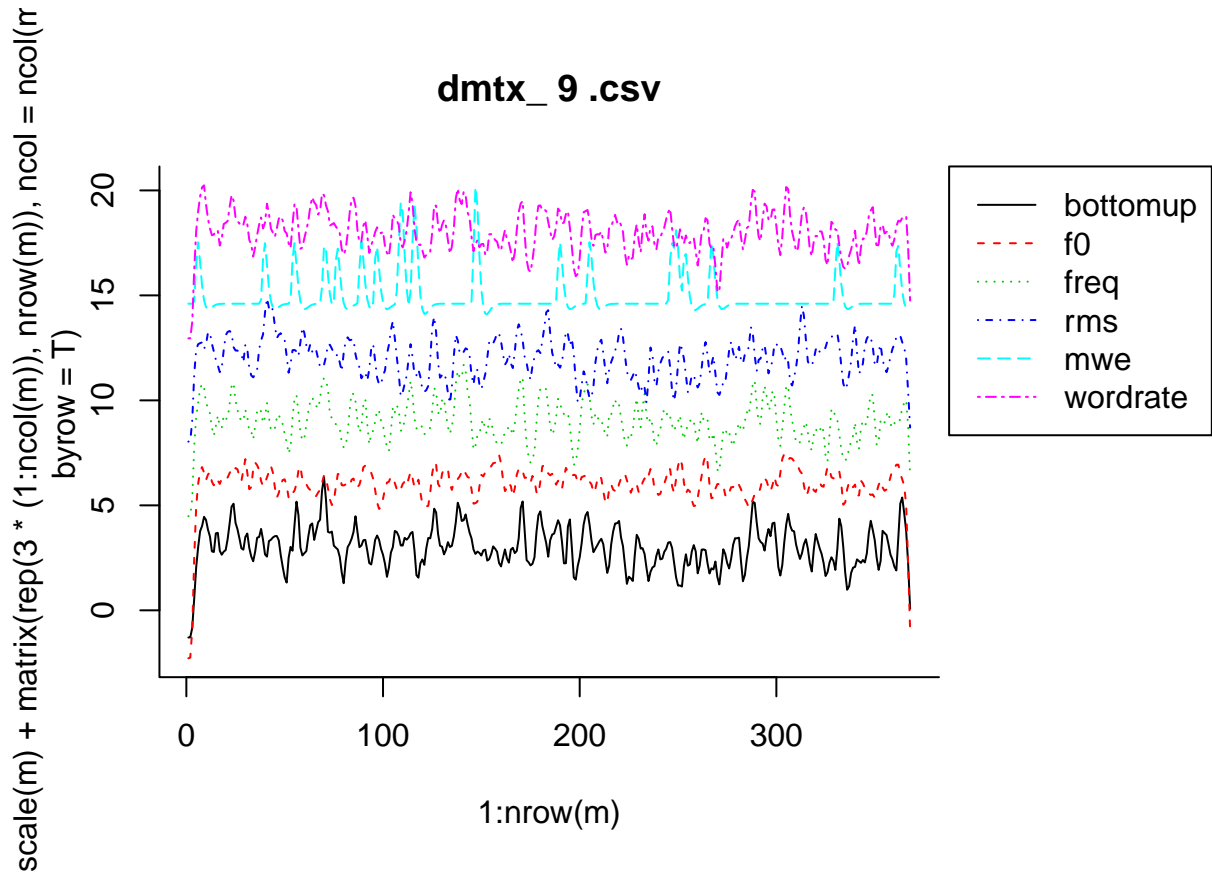
dmtx_ 7 .csv


```
## [1] "pair-wise correlations: "
##          bottomup    f0 freq   rms   mwe wordrate
## bottomup     1.00 0.340 0.82 0.370 0.120     0.85
## f0           0.34 1.000 0.32 0.520 0.033     0.38
## freq         0.82 0.320 1.00 0.440 0.210     0.95
## rms          0.37 0.520 0.44 1.000 0.072     0.50
## mwe          0.12 0.033 0.21 0.072 1.000     0.19
## wordrate     0.85 0.380 0.95 0.500 0.190     1.00
## [1] "Variance Inflation Factors:"
##  wordrate       rms        f0      freq  bottomup       mwe
## 12.372528  1.624001  1.433205  9.839360  3.699055  1.056583
```

dmtx_ 8 .csv


```
## [1] "pair-wise correlations: "
##            bottomup    f0  freq   rms    mwe wordrate
## bottomup       1.00  0.30 0.760 0.260  0.070     0.780
## f0             0.30  1.00 0.370 0.490 -0.090     0.470
## freq           0.76  0.37 1.000 0.300  0.064     0.910
## rms            0.26  0.49 0.300 1.000  0.081     0.480
## mwe            0.07 -0.09 0.064 0.081  1.000     0.085
## wordrate       0.78  0.47 0.910 0.480  0.085     1.000
## [1] "Variance Inflation Factors:"
## wordrate      rms       f0     freq bottomup      mwe
## 9.650109 1.696205 1.503347 7.096815 2.693100 1.041716
```

dmtx_ 9 .csv


```
## [1] "pair-wise correlations: "
##          bottomup     f0  freq   rms     mwe wordrate
## bottomup   1.000 0.4000 0.770  0.34  0.0450    0.780
## f0         0.400 1.0000 0.430  0.48  0.0061    0.490
## freq       0.770 0.4300 1.000  0.38  0.0670    0.910
## rms        0.340 0.4800 0.380  1.00 -0.1400    0.560
## mwe        0.045 0.0061 0.067 -0.14  1.0000    0.069
## wordrate   0.780 0.4900 0.910  0.56  0.0690    1.000
## [1] "Variance Inflation Factors:"
## wordrate      rms       f0     freq bottomup      mwe
## 9.879423 1.975634 1.449657 7.486373 2.708233 1.063569
```