

sWeave

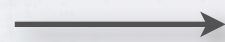
Benno Pütz

Reproducible Research

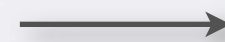
WORKFLOW

10	140.34	29.07	80,680	3984.100	29,525	23,588	22,637	207.0
10	69.50	29.08	33,850	4017.950	30,320	25,030	22,700	207.0
10	52.16	28.09	24,470	4042.420	29,721	26,004	22,710	207.0
10	87.20	29.72	44,060	4086.480	32,727	27,957	22,829	207.0
10	141.10	22.34	52,570	4139.050	35,280	30,335	22,995	207.0
10			5,500	4144.550	31,732	30,210	22,898	207.0
10	27.03	27.68	12,480	4157.030	30,230	30,359	22,841	207.0
10			21,840	4178.870	30,305	28,901	22,835	207.0
10	12.01	23.07	4,620	4183.490	30,787	27,132	22,736	207.0
10	88.10	30.22	44,410	4227.900	32,448	28,728	22,854	207.0
10	87.01	30.26	43,910	4271.810	28,771	29,148	22,967	207.0
10	88.30	29.99	44,240	4316.050	29,810	30,065	23,080	207.0
10	74.50	29.70	37,000	4353.090	31,067	30,394	23,155	207.0
10	40.01	18.82	12,500	4359.540	30,319	30,392	23,099	207.0
10	50.35	26.31	23,800	4359.540	30,319	30,163	23,103	207.0
10			5,000	4364.020	30,364	29,364	23,008	207.0
10	65.57	29.57	32,500	4427.007	26,998	28,614	23,057	207.0
10	92.10	26.97	44,500	4471.507	29,284	29,784	23,168	207.0
10	63.10	28.58	30,100	4501.607	31,812	31,289	23,204	207.0
10	37.40	26.44	16,600	4518.207	29,031	30,739	23,170	207.0
10	104.40	29.41	51,300	4569.507	29,770	29,270	23,314	207.0
10	60.50	29.48	29,900	4599.407	28,336	29,073	23,347	207.0
10	42.50	26.75	19,100	4618.507	26,542	28,804	23,326	207.0
10	55.50	26.48	26,500	4645.007	27,937	27,926	23,342	207.0
10	56.30	26.30	26,650	4671.657	28,215	26,630	23,358	207.0
10			13,000	4684.657	29,015	27,005	23,307	207.0
10	72.21	26.40	34,240	4718.897	29,589	28,090	23,361	207.0
10	16.45	26.80	16,080	4734.977	26,347	27,805	23,325	207.0
10	13.75	26.52	8,200	4734.977	26,347	27,805	23,325	207.0

Data

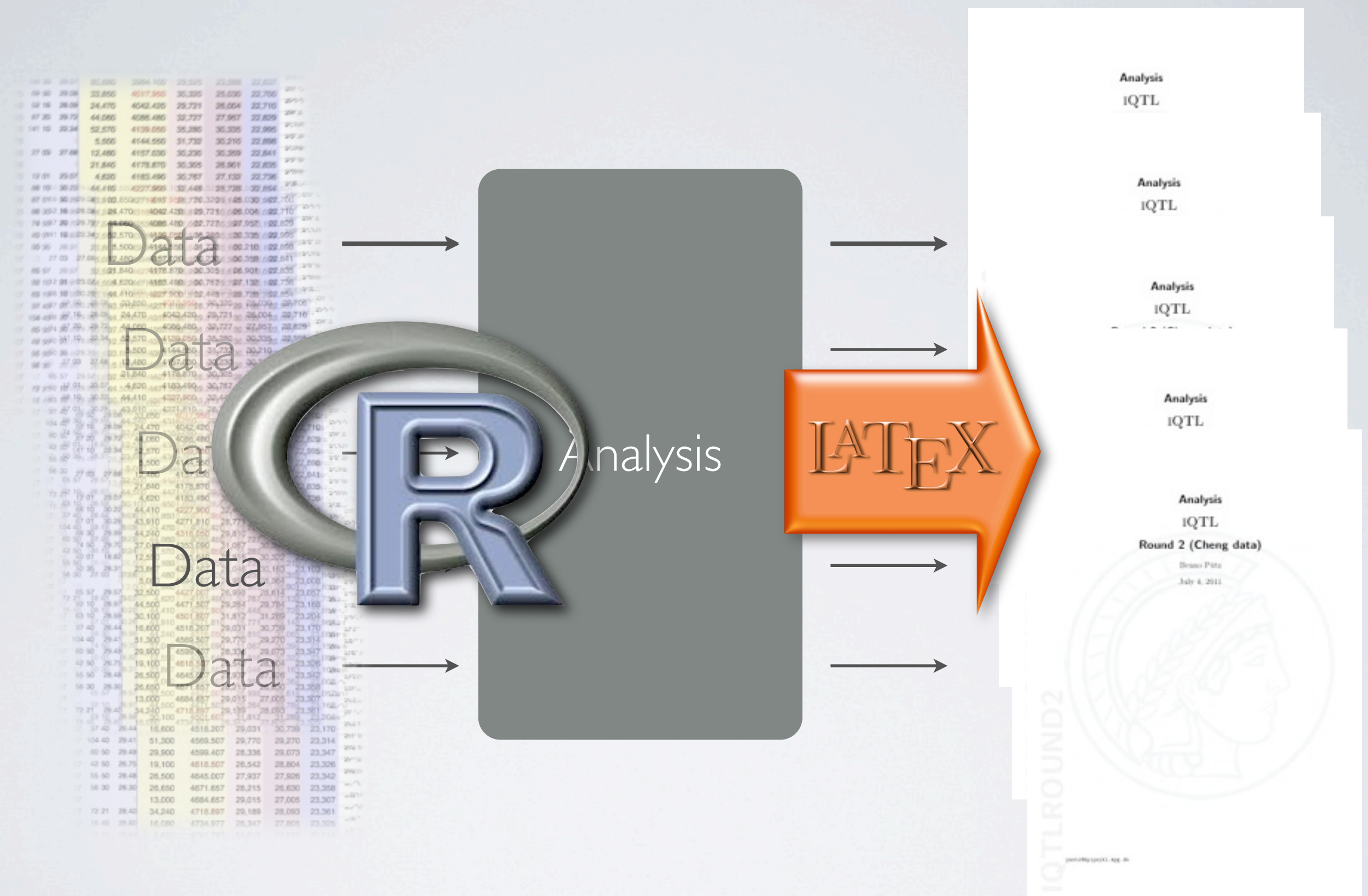


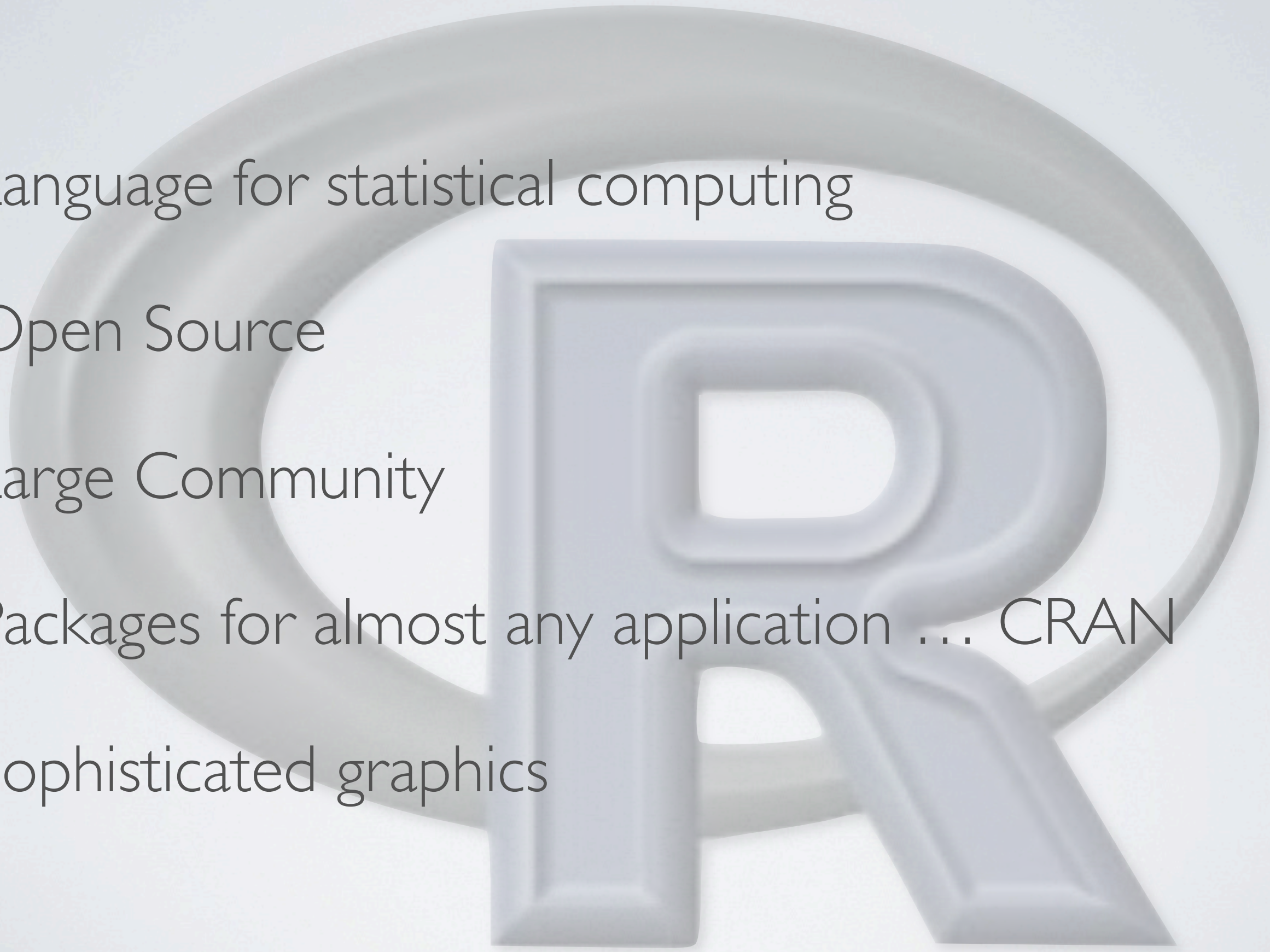
Analysis

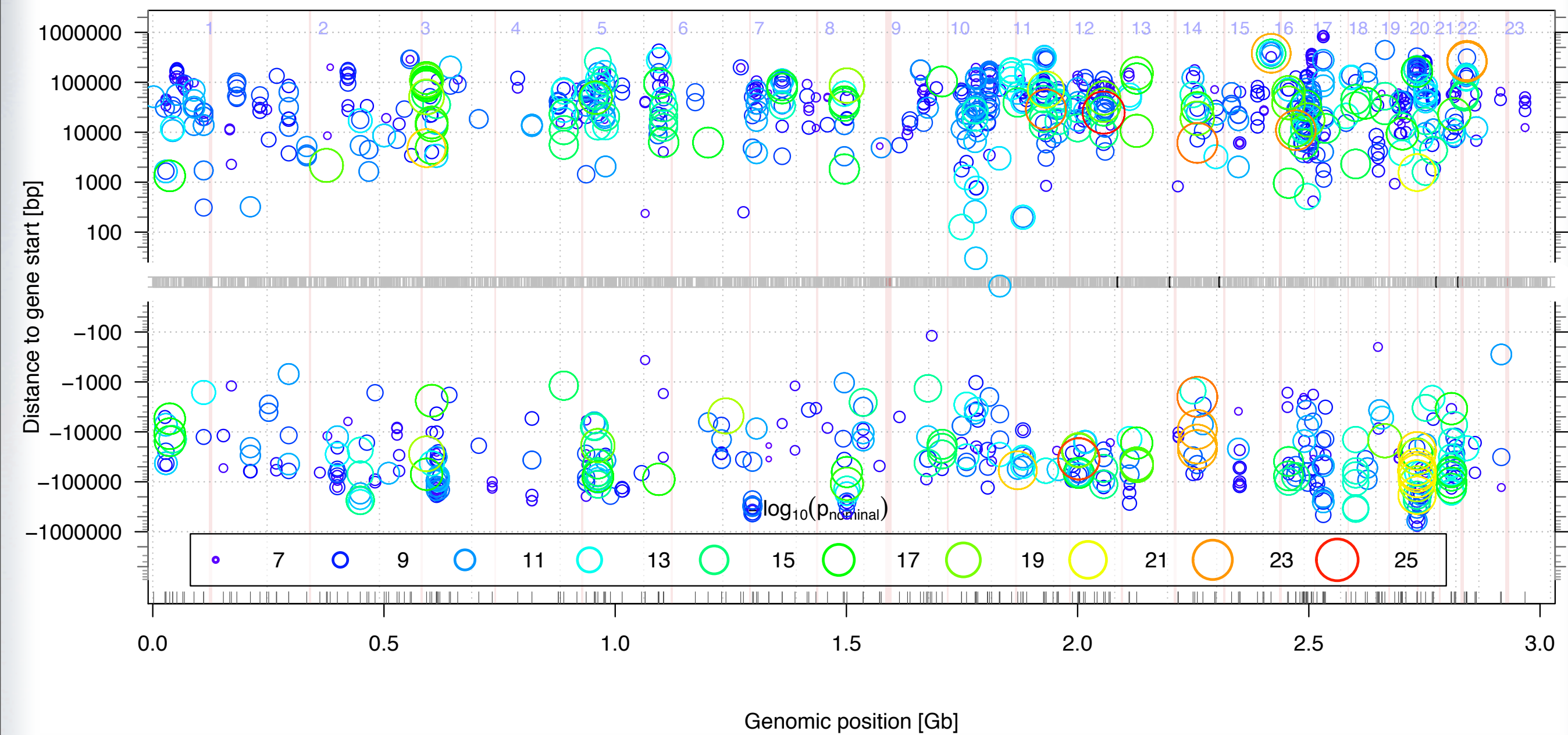


Report



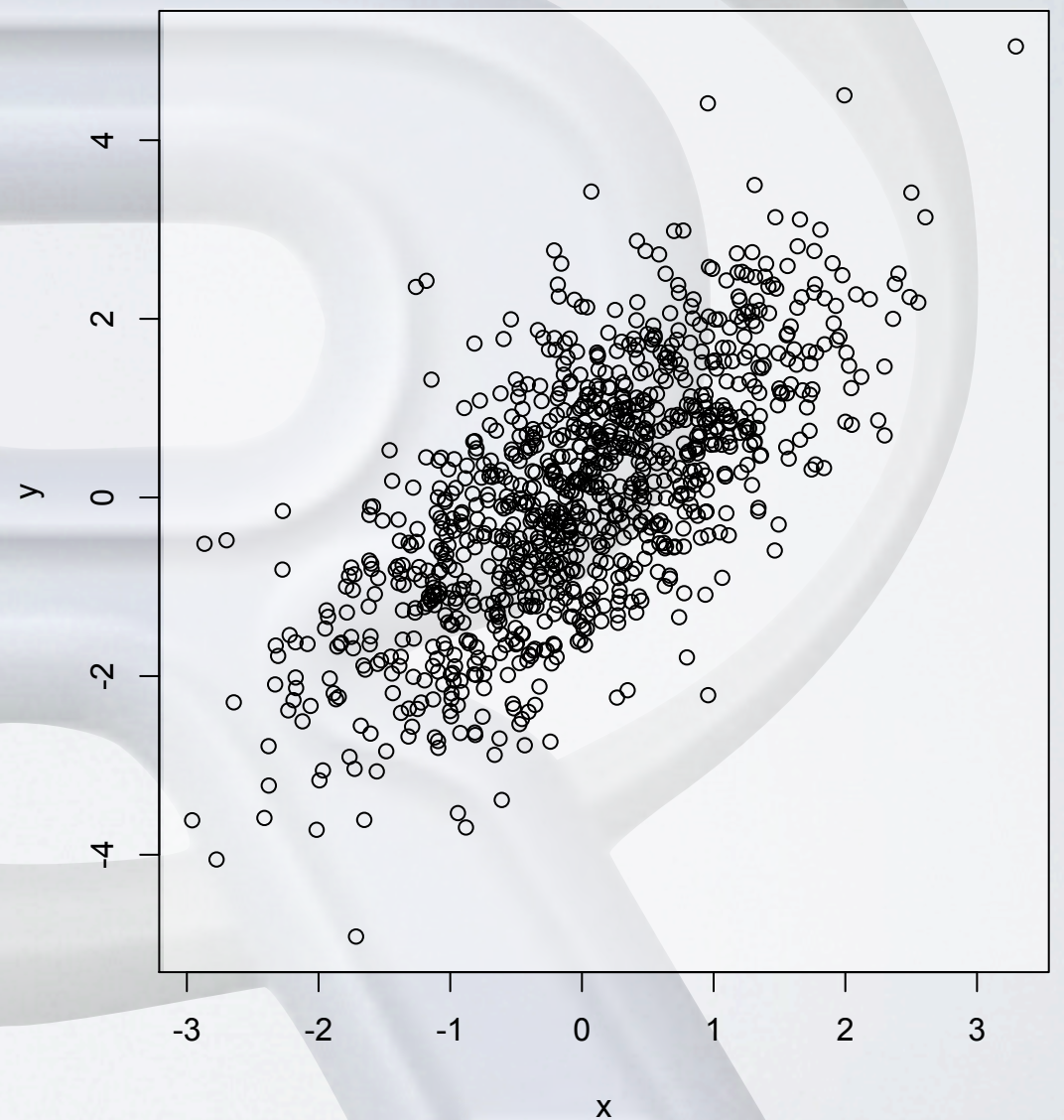


- 
- Language for statistical computing
 - Open Source
 - Large Community
 - Packages for almost any application ... CRAN
 - Sophisticated graphics



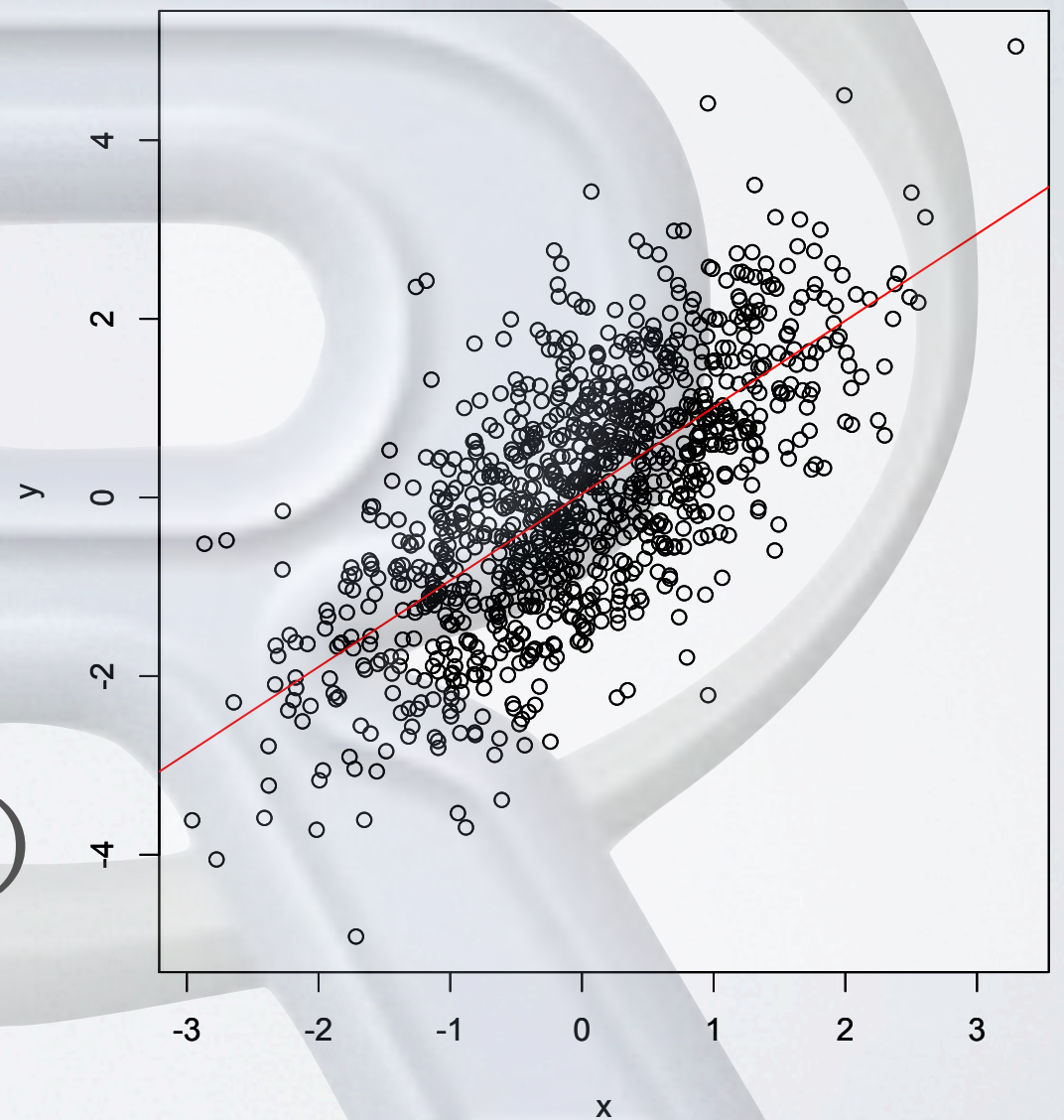
SIMPLE EXAMPLES

```
x = rnorm(1000)  
y = x+rnorm(1000)  
plot(x,y)
```



SIMPLE EXAMPLES

```
x = rnorm(1000)
y = rnorm(1000)
plot(x,y)
fit = lm(y~x)
abline(fit, col='red')
```



SWEAVE

- Literate Programming
- Add R to LaTeX




```
\documentclass[a4paper]{article}
```

```
\title{Sweave Example 1}
```

```
\author{Friedrich Leisch}
```

```
\begin{document}
```

```
\maketitle
```

In this example we embed parts of the examples from the
`\texttt{kruskal.test}` help page into a `\LaTeX{}` document:

```
<<>>=
```

```
data(airquality)
```

```
library(stats)
```

```
kruskal.test(Ozone ~ Month, data = airquality)
```

```
@
```

which shows that the location parameter of the Ozone
distribution varies significantly from month to month. Finally we
include a boxplot of the data:

```
\begin{center}
```

```
<<fig=TRUE,echo=FALSE>>=
```

```
boxplot(Ozone ~ Month, data = airquality)
```

```
@
```

```
\end{center}
```

```
\end{document}
```

```

\documentclass[a4paper]{article}

\title{Sweave Example 1}
\author{Friedrich Leisch}

\usepackage{/home/leisch/work/R/build-patched/share/texmf/Sweave}
\begin{document}

\maketitle

In this example we embed parts of the examples from the
\texttt{kruskal.test} help page into a \LaTeX{} document:

\begin{Schunk}
\begin{Sinput}
> data(airquality)
> library(stats)
> kruskal.test(Ozone ~ Month, data = airquality)
\end{Sinput}
\begin{Soutput}
      Kruskal-Wallis rank sum test

data:  Ozone by Month
Kruskal-Wallis chi-squared = 29.2666, df = 4, p-value = 6.901e-06
\end{Soutput}
\end{Schunk}

which shows that the location parameter of the Ozone
distribution varies significantly from month to month. Finally we
include a boxplot of the data:

\begin{center}
\includegraphics{example-1-002}
\end{center}

\end{document}

```


Sweave Example 1

Friedrich Leisch

May 15, 2008

In this example we embed parts of the examples from the `kruskal.test` help page into a $\text{\LaTeX}$ document:

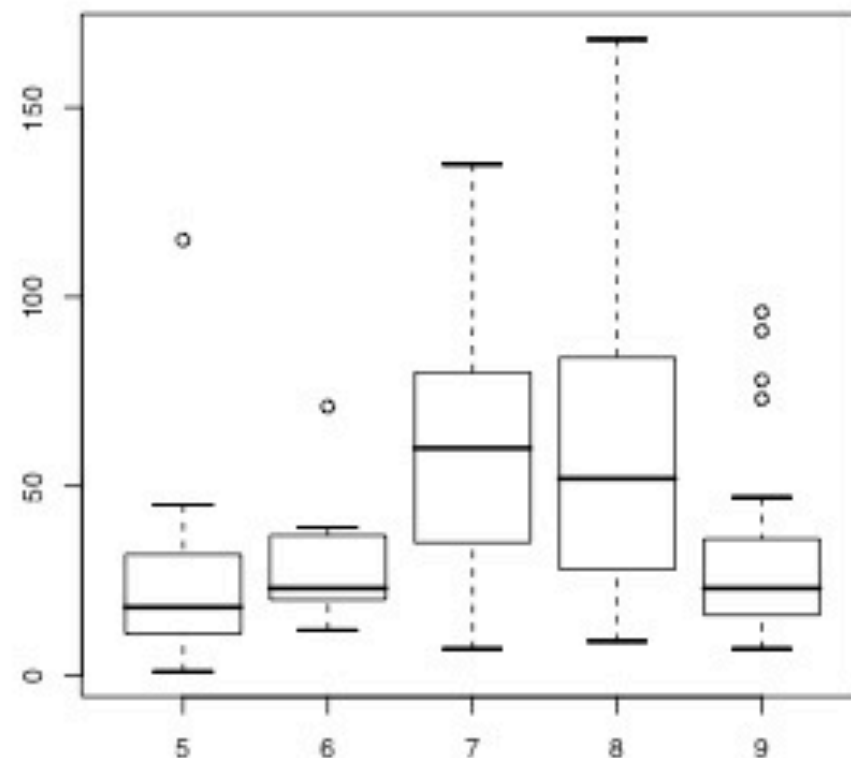
```
> data(airquality)
> library(ctest)
> kruskal.test(Ozone ~ Month, data = airquality)
```

Kruskal-Wallis rank sum test

data: Ozone by Month

Kruskal-Wallis chi-squared = 29.2666, df = 4, p-value = 6.901e-06

which shows that the location parameter of the Ozone distribution varies significantly from month to month. Finally we include a boxplot of the data:



Sweave Example 1

Friedrich Leisch

May 15, 2008

In this example we embed parts of the examples from the `kruskal.test` help page into a $\text{\LaTeX}$ document:

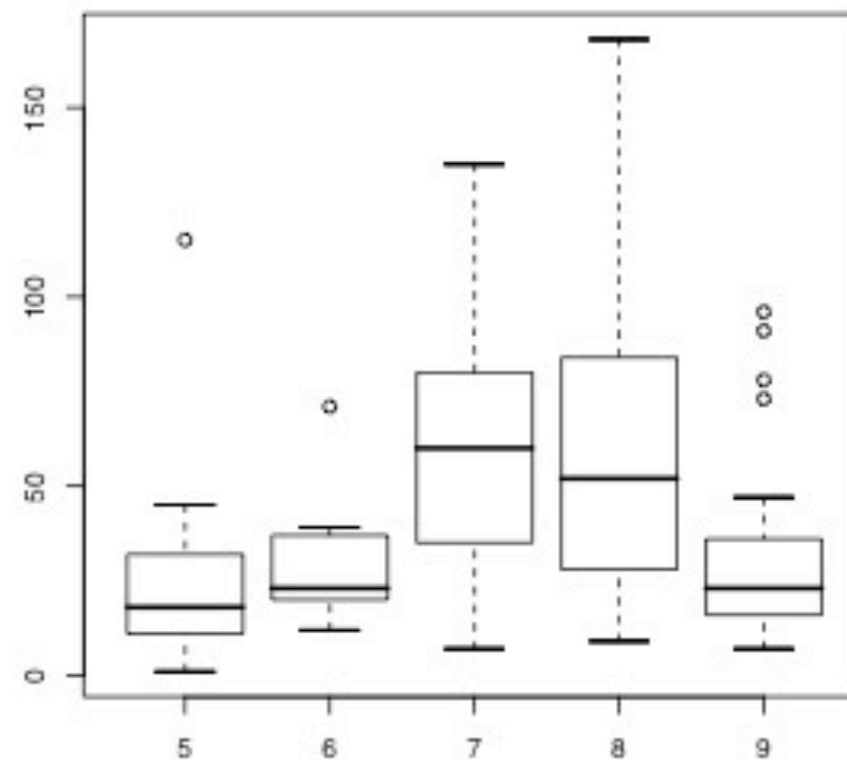
```
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> kruskal.test(Ozone ~ Month, data = airquality)
```

Kruskal-Wallis rank sum test

data: Ozone by Month

Kruskal-Wallis chi-squared = 29.2666, df = 4, p-value = 6.901e-06

which shows that the location parameter of the Ozone distribution varies significantly from month to month. Finally we include a boxplot of the data:



Results are provided as

- PDF-Report for quick overview

B RAF CKO rafcko

4 DIFFERENTIAL EXPRESSION ANALYSIS

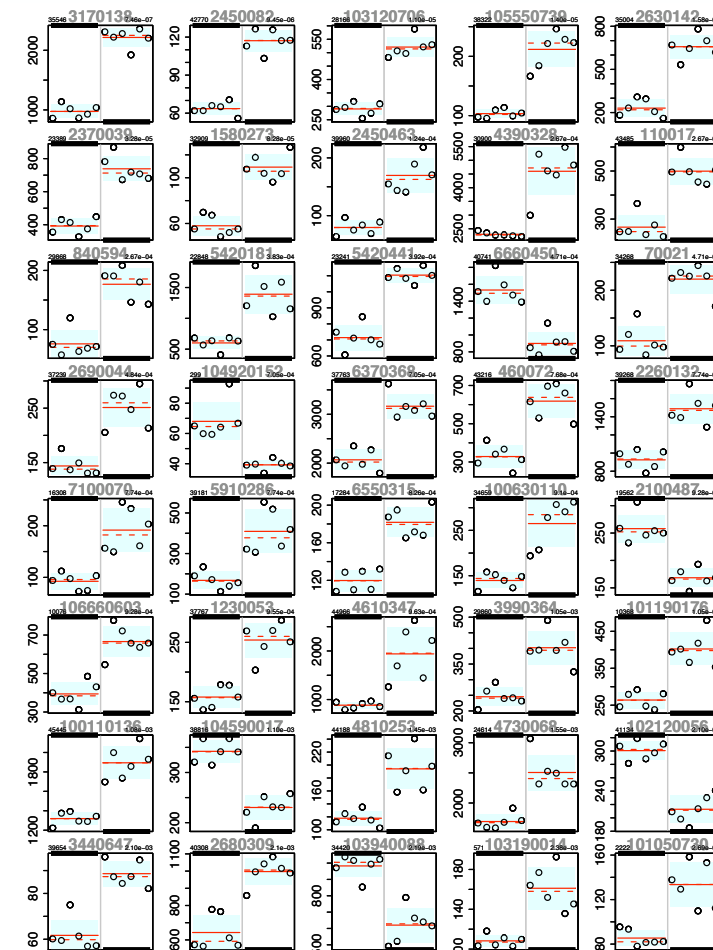


Figure 7a: Top 40 genes for contrast KO (the two groups defining the contrast are indicated by the bars across the top and bottom border of the plot). Normalised expression for the top genes across all arrays with their respective group mean (solid red line) and median (dashed red line) values. The range ($mean \pm \sigma$) is indicated by the light blue background shading, the adjusted p -values for each gene is shown above the plot. Groups are ordered KO—WT.

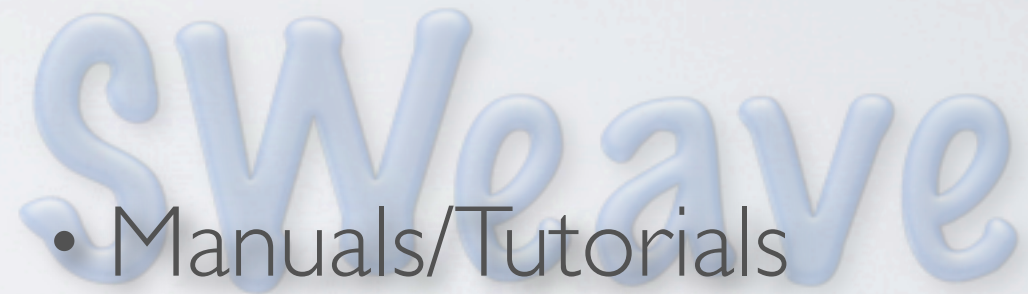


R-PROJECT.ORG

ADDITIONAL LINKS



- Manuals/Tutorials
 - [Homepage, manuals and download \(CRAN\)](#)
 - [Introduction](#)
 - [Wiki](#)



- Manuals/Tutorials
 - [Sweave manual and homepage](#)
 - [Example](#)
- Other presentations
(in German)
 - [Lindermeir, Uni Augsburg, 2010](#)
 - [Ziegenhagen, Dante 2010](#)