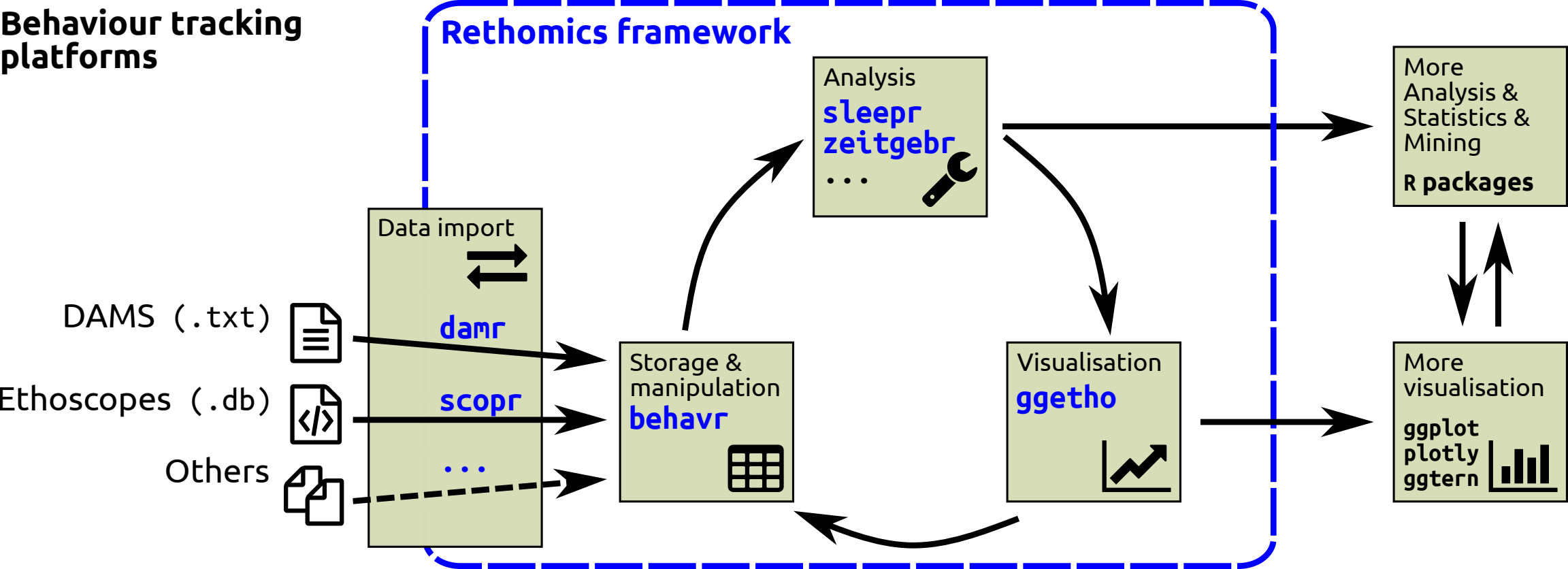
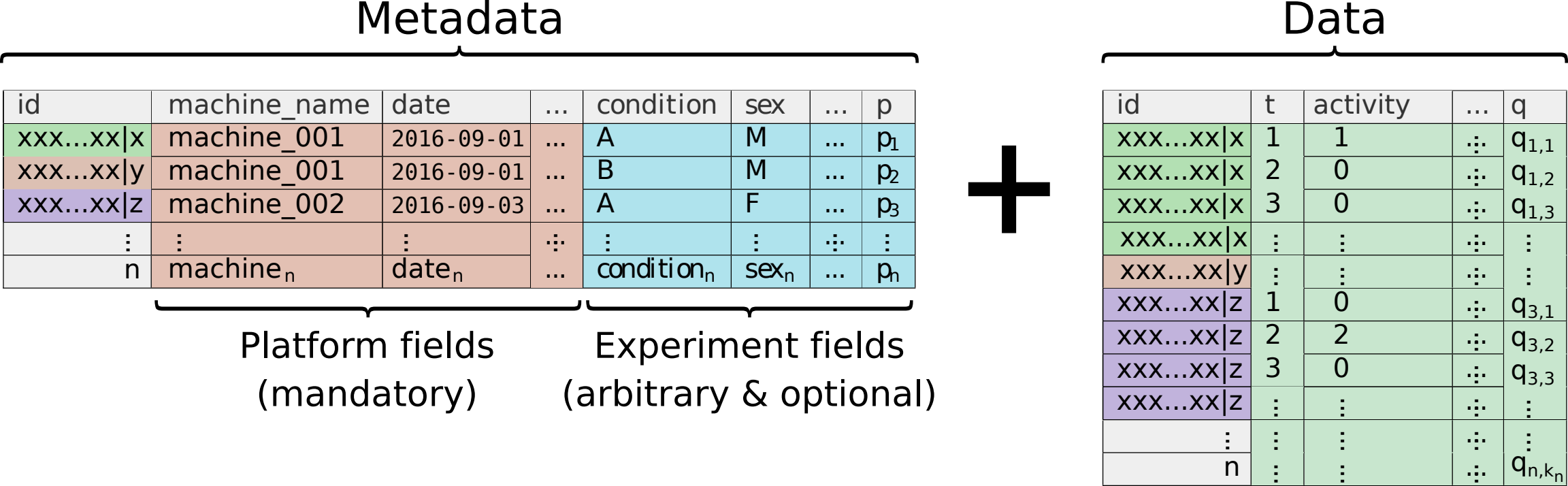
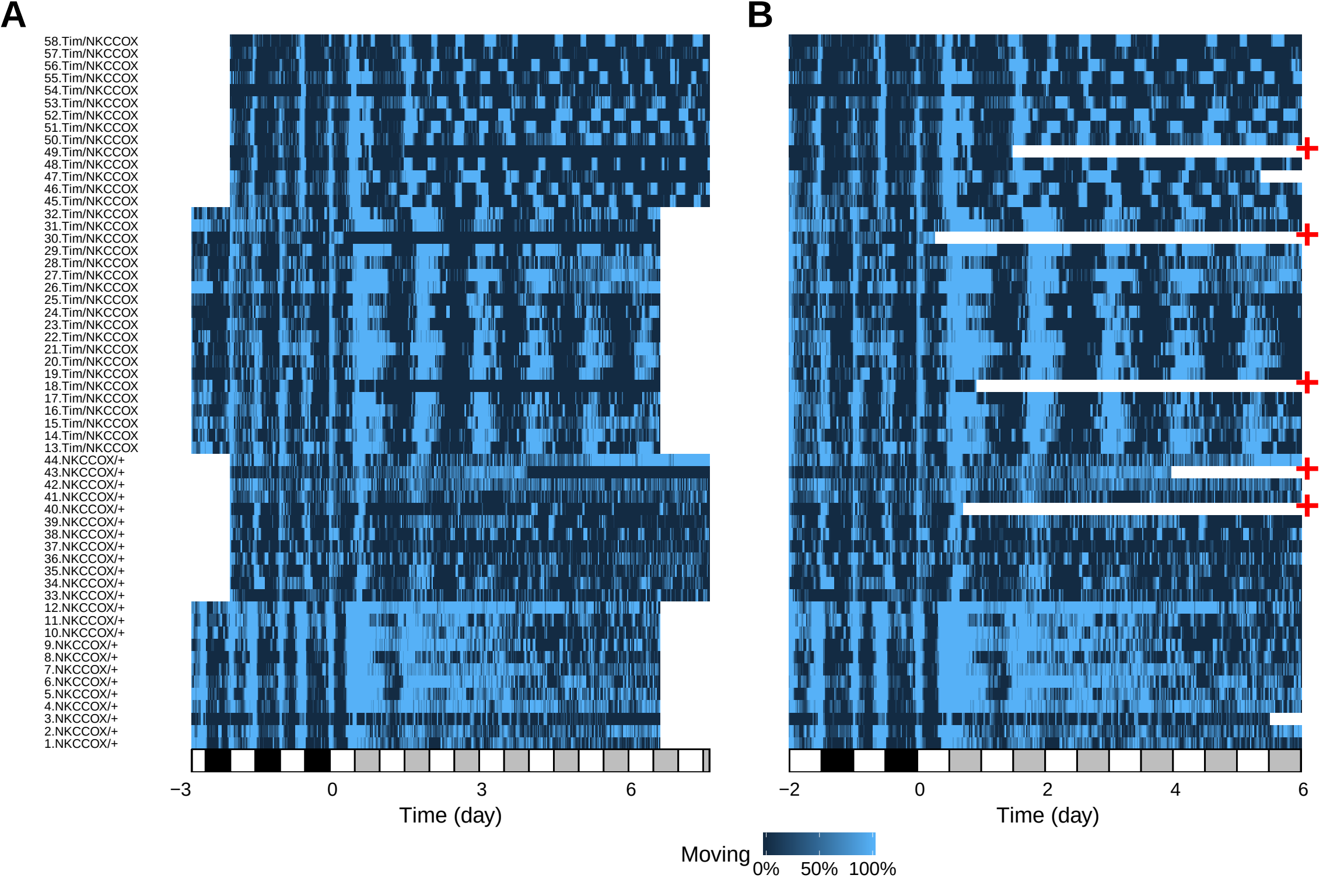
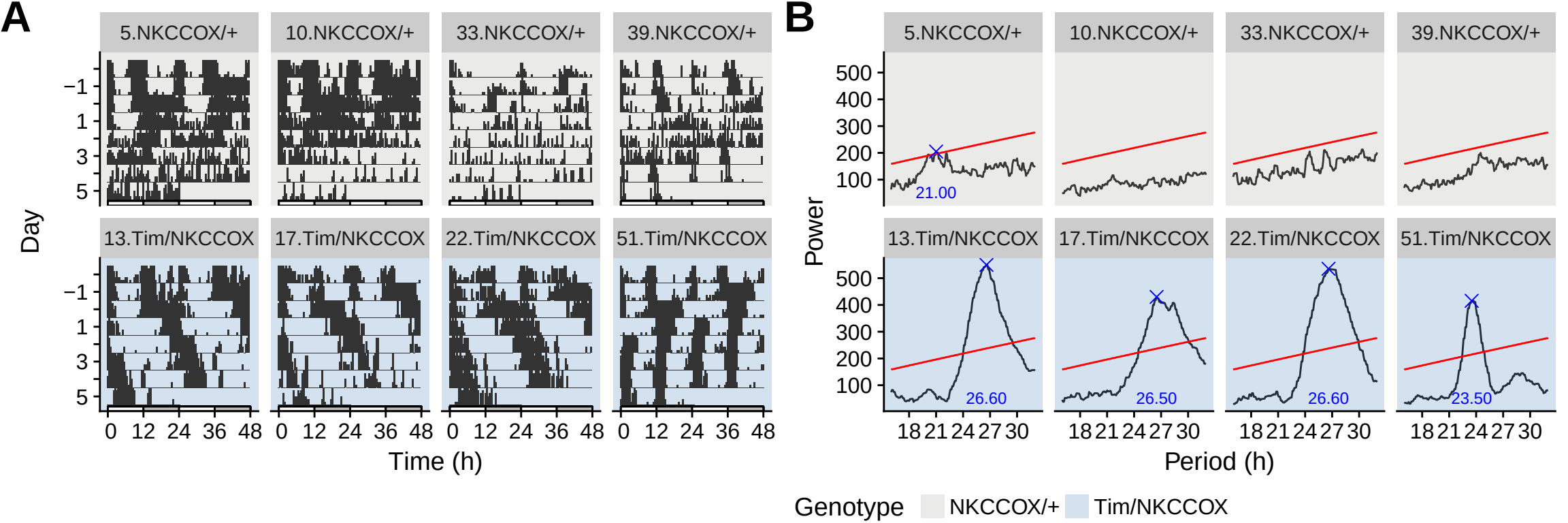
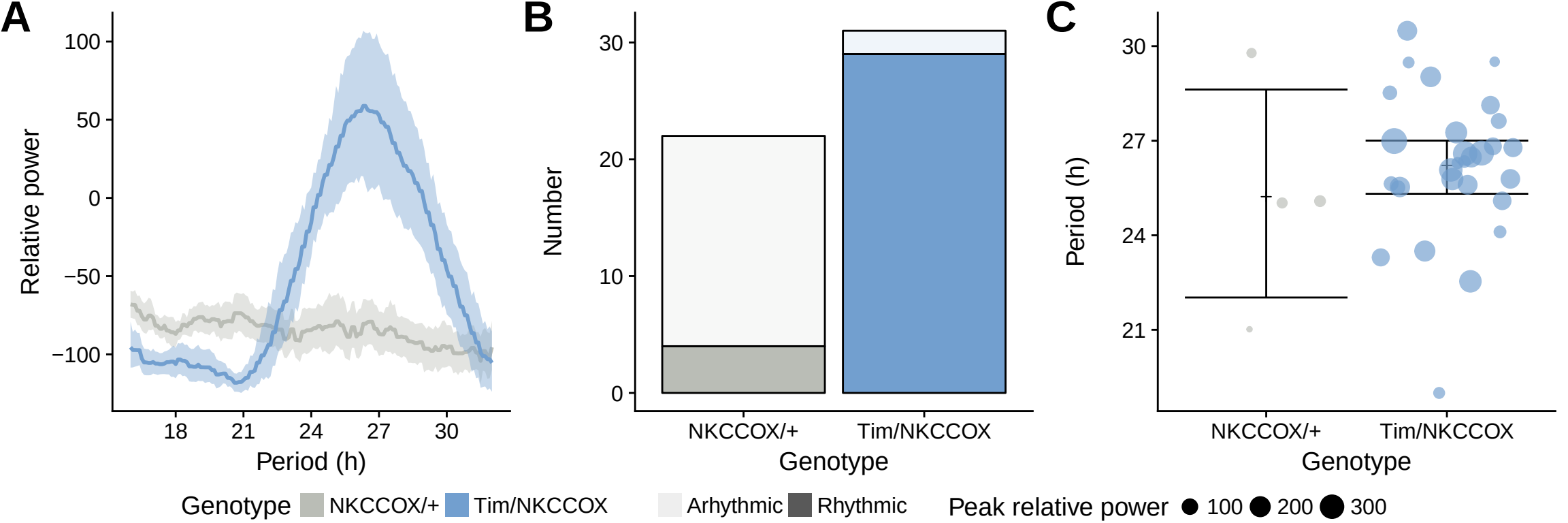
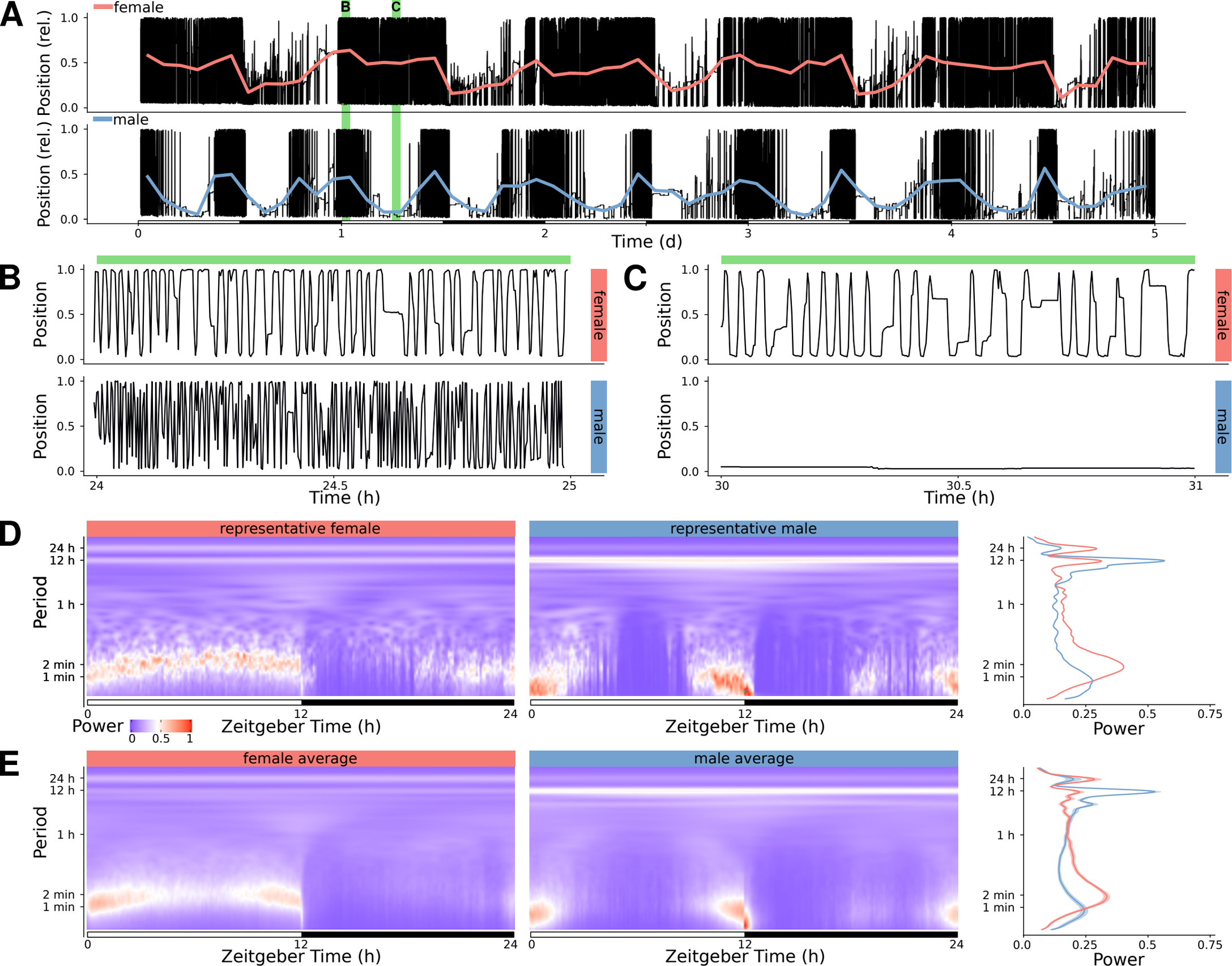

Behaviour tracking platforms
Rethomics framework
Analysis
sleepr
zeitgebr
...
More Analysis & Statistics & Mining
R packages
Data import
damr
scopr
...
DAMS (.txt)
Ethoscopes (.db)
Others
Storage & manipulation
behavr
Visualisation
ggetho
More visualisation
ggplot
plotly
ggtern

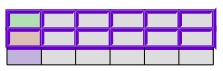
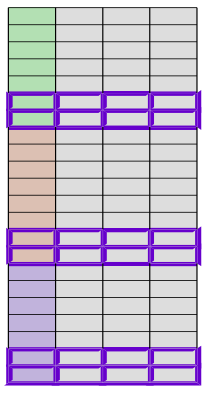
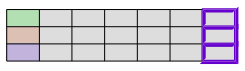
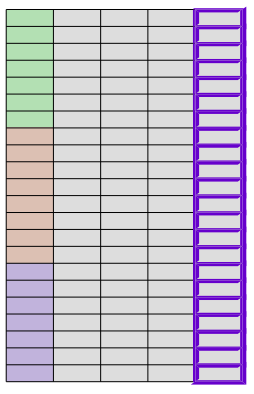
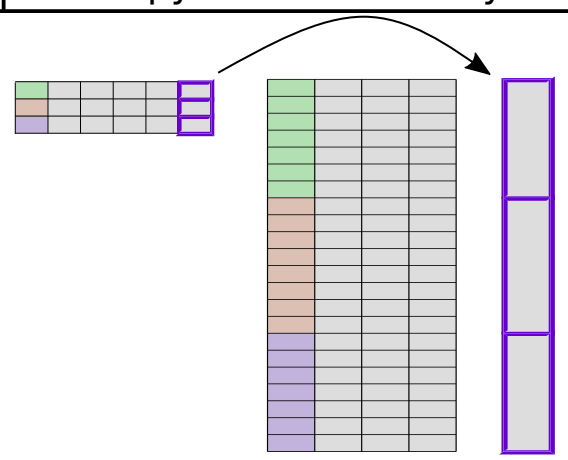
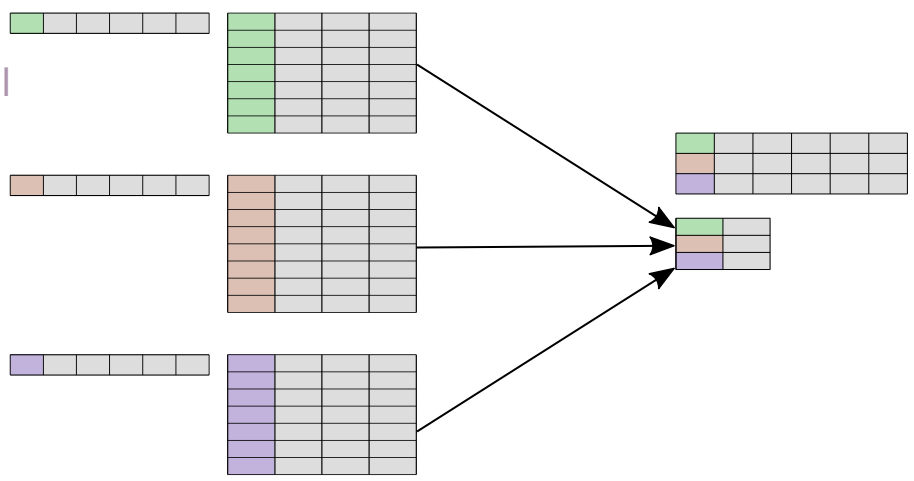
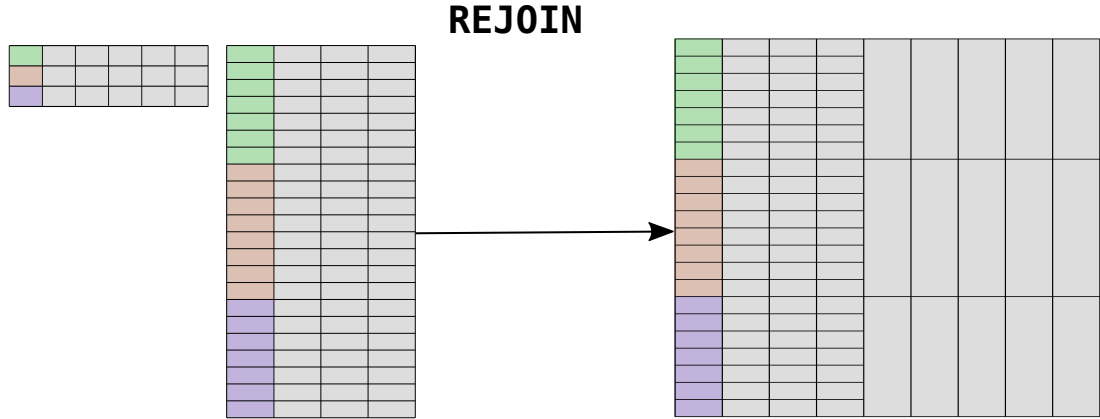

Metadata
Data
id
machine_name
date
...
condition
sex
...
p
xxx...xx|x
machine_001
2016-09-01
...
A
M
...
p_1
xxx...xx|y
machine_001
2016-09-01
...
B
M
...
p_2
xxx...xx|z
machine_002
2016-09-03
...
A
F
...
p_3
n
$machine_n$
$date_n$
...
$condition_n$
sex_n
...
p_n
Platform fields
(mandatory)
Experiment fields
(arbitrary & optional)
id
t
activity
...
q
xxx...xx|x
1
1
$q_{1,1}$
2
0
$q_{1,2}$
3
0
$q_{1,3}$
xxx...xx|y
xxx...xx|z
1
0
$q_{3,1}$
2
2
$q_{3,2}$
3
0
$q_{3,3}$
n
q_{n,k_n}


A
58.Tim/NKCCOX
57.Tim/NKCCOX
56.Tim/NKCCOX
55.Tim/NKCCOX
54.Tim/NKCCOX
53.Tim/NKCCOX
52.Tim/NKCCOX
51.Tim/NKCCOX
50.Tim/NKCCOX
49.Tim/NKCCOX
48.Tim/NKCCOX
47.Tim/NKCCOX
46.Tim/NKCCOX
45.Tim/NKCCOX
32.Tim/NKCCOX
31.Tim/NKCCOX
30.Tim/NKCCOX
29.Tim/NKCCOX
28.Tim/NKCCOX
27.Tim/NKCCOX
26.Tim/NKCCOX
25.Tim/NKCCOX
24.Tim/NKCCOX
23.Tim/NKCCOX
22.Tim/NKCCOX
21.Tim/NKCCOX
20.Tim/NKCCOX
19.Tim/NKCCOX
18.Tim/NKCCOX
17.Tim/NKCCOX
16.Tim/NKCCOX
15.Tim/NKCCOX
14.Tim/NKCCOX
13.Tim/NKCCOX
44.NKCCOX/+
43.NKCCOX/+
42.NKCCOX/+
41.NKCCOX/+
40.NKCCOX/+
39.NKCCOX/+
38.NKCCOX/+
37.NKCCOX/+
36.NKCCOX/+
35.NKCCOX/+
34.NKCCOX/+
33.NKCCOX/+
12.NKCCOX/+
11.NKCCOX/+
10.NKCCOX/+
9.NKCCOX/+
8.NKCCOX/+
7.NKCCOX/+
6.NKCCOX/+
5.NKCCOX/+
4.NKCCOX/+
3.NKCCOX/+
2.NKCCOX/+
1.NKCCOX/+
−3
0
3
6
Time (day)
B
−2
0
2
4
6
Time (day)
Moving
0%
50%
100%


A
5.NKCCOX/+
10.NKCCOX/+
33.NKCCOX/+
39.NKCCOX/+
13.Tim/NKCCOX
17.Tim/NKCCOX
22.Tim/NKCCOX
51.Tim/NKCCOX
Day
−1
1
3
5
0 12 24 36 48
Time (h)
B
Power
500
400
300
200
100
21.00
26.60
26.50
26.60
23.50
18 21 24 27 30
Period (h)
Genotype
NKCCOX/+
Tim/NKCCOX


A
Relative power
100
50
0
−50
−100
18
21
24
27
30
Period (h)
B
Number
30
20
10
0
NKCCOX/+
Tim/NKCCOX
Genotype
C
Period (h)
30
27
24
21
NKCCOX/+
Tim/NKCCOX
Genotype
Genotype
NKCCOX/+
Tim/NKCCOX
Arhythmic
Rhythmic
Peak relative power
100
200
300


A
female
male
B
C
Position (rel.)
1.0
0.5
0.0
0
1
2
3
4
5
Time (d)
B
Position
female
male
24
24.5
25
Time (h)
C
30
30.5
31
Time (h)
D
representative female
representative male
Period
24 h
12 h
1 h
2 min
1 min
0
12
24
Zeitgeber Time (h)
Power
0
0.5
1
0.0
0.25
0.5
0.75
Power
E
female average
male average
Zeitgeber Time (h)
Power

	Metadata	Data
Select	**dt[CRITERIA, meta = TRUE]**  *# to subet the metadata only for males* *> male_meta <- dt[sex == "M",* *meta = TRUE]*	**dt[CRITERIA]** *# to keep only data > 5s* *> late_dt <- dt[t > 5]* Note: metadata is updated when selection removes all data from one id. 
Alter, create & delete (meta)variables	**dt[, X := value, meta = TRUE]**  *# to create a metavariable set to "wt"* *> dt[, genotype := "wt", meta = TRUE]* *# delete* *> dt[, sex := NULL, meta = TRUE]*	**dt[, Y := value]** *# to create t_2 (t - 1)* *> dt[, t_2 := t - 1]* *# to delete t* *> dt[, t := NULL]* Note: update data in place. No copy of dt in memory. 
Expand metavariables as variables	**dt[xmv(X)]** *# to select data with sex* *> dt <- dt[xmv(sex) == "M"]* *# to copy a metavariable as a variable* *> dt[, s := xmv(sex)]*	
Aggregate & summary	**dt[, OPERATION, by = id]** *# to compute mean activity, per individual* *> dt <- dt[,.(* *mean_act = mean(activity)* *), by = id]* *# to count reads per id* *> dt[, .N, by = id]*	**OPERATION** 
Join data & metadata	**rejoin(dt)** *# to reunite data and metadata* *> full_table <- rejoin(dt)* Note: used mostly after aggregation or preprocessing	**REJOIN** 

A

B

1.NKCCOX/+ 2.NKCCOX/+ 3.NKCCOX/+ 4.NKCCOX/+
5.NKCCOX/+ 6.NKCCOX/+ 7.NKCCOX/+ 8.NKCCOX/+
9.NKCCOX/+ 10.NKCCOX/+ 11.NKCCOX/+ 12.NKCCOX/+
33.NKCCOX/+ 34.NKCCOX/+ 35.NKCCOX/+ 36.NKCCOX/+
37.NKCCOX/+ 38.NKCCOX/+ 39.NKCCOX/+ 41.NKCCOX/+
42.NKCCOX/+ 44.NKCCOX/+ 13.Tim/NKCCOX 14.Tim/NKCCOX
15.Tim/NKCCOX 16.Tim/NKCCOX 17.Tim/NKCCOX 19.Tim/NKCCOX
20.Tim/NKCCOX 21.Tim/NKCCOX 22.Tim/NKCCOX 23.Tim/NKCCOX
24.Tim/NKCCOX 25.Tim/NKCCOX 26.Tim/NKCCOX 27.Tim/NKCCOX
28.Tim/NKCCOX 29.Tim/NKCCOX 31.Tim/NKCCOX 32.Tim/NKCCOX
45.Tim/NKCCOX 46.Tim/NKCCOX 47.Tim/NKCCOX 48.Tim/NKCCOX
50.Tim/NKCCOX 51.Tim/NKCCOX 52.Tim/NKCCOX 53.Tim/NKCCOX
54.Tim/NKCCOX 55.Tim/NKCCOX 56.Tim/NKCCOX 57.Tim/NKCCOX
58.Tim/NKCCOX

Day

power

Time (h)

Period (h)