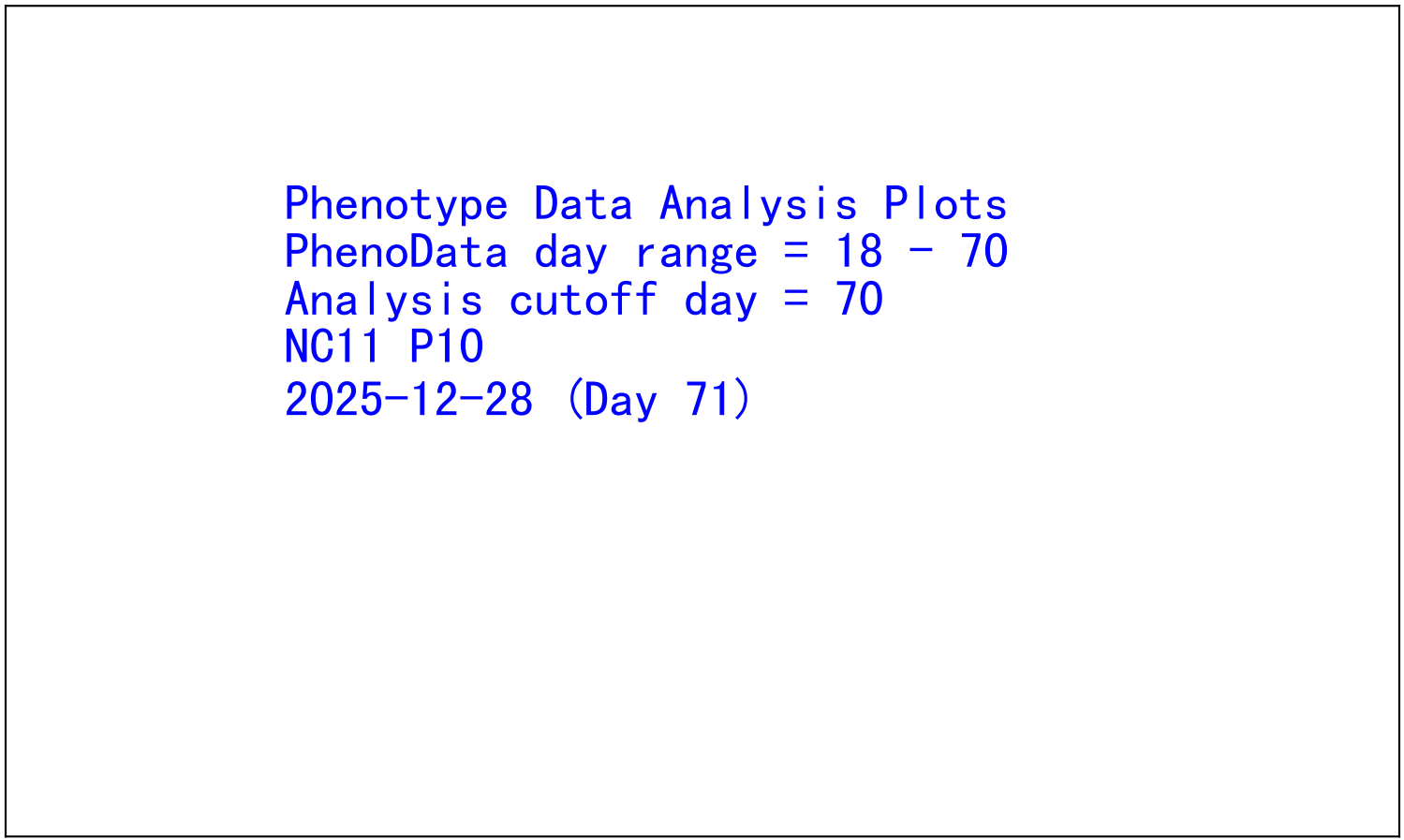
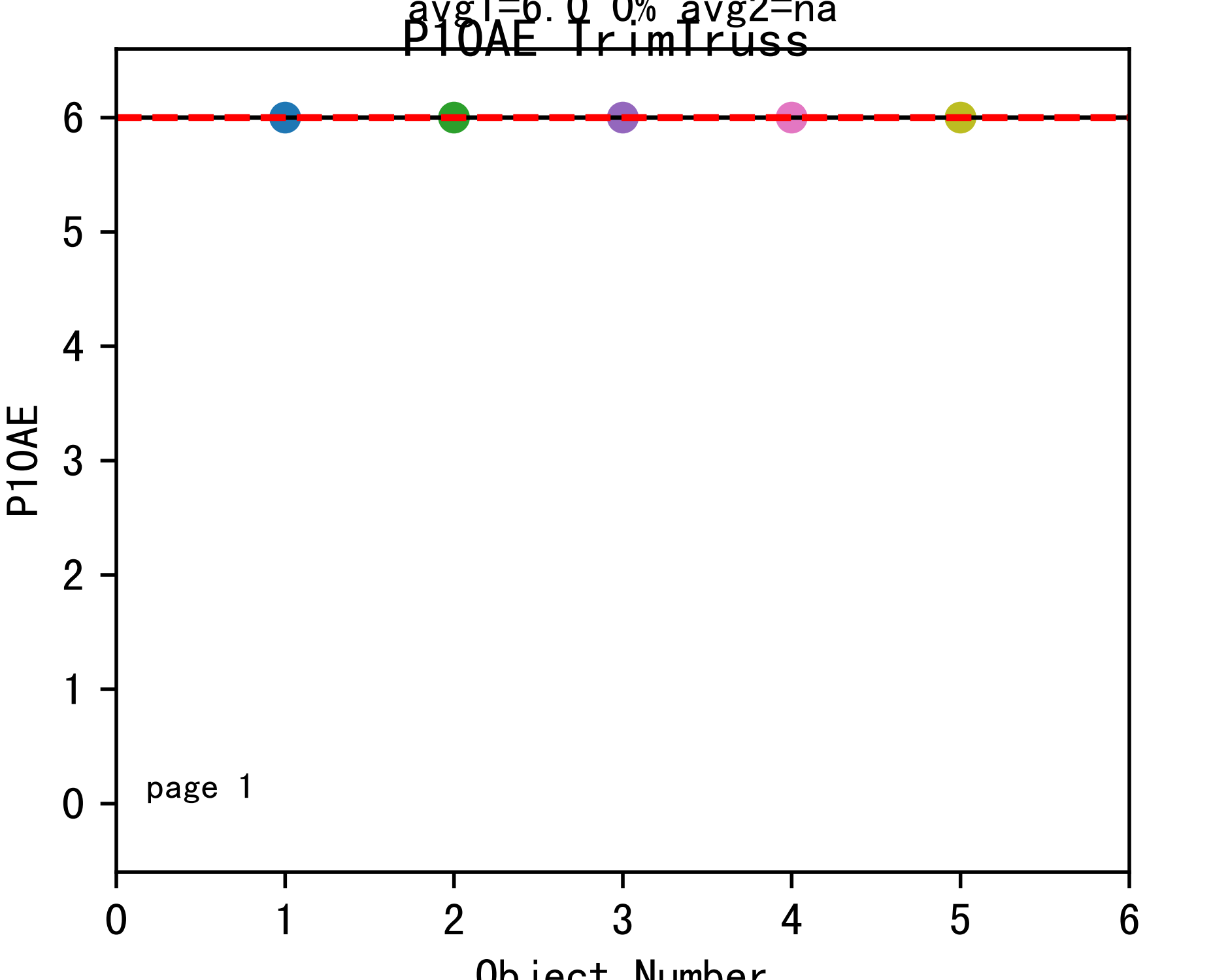
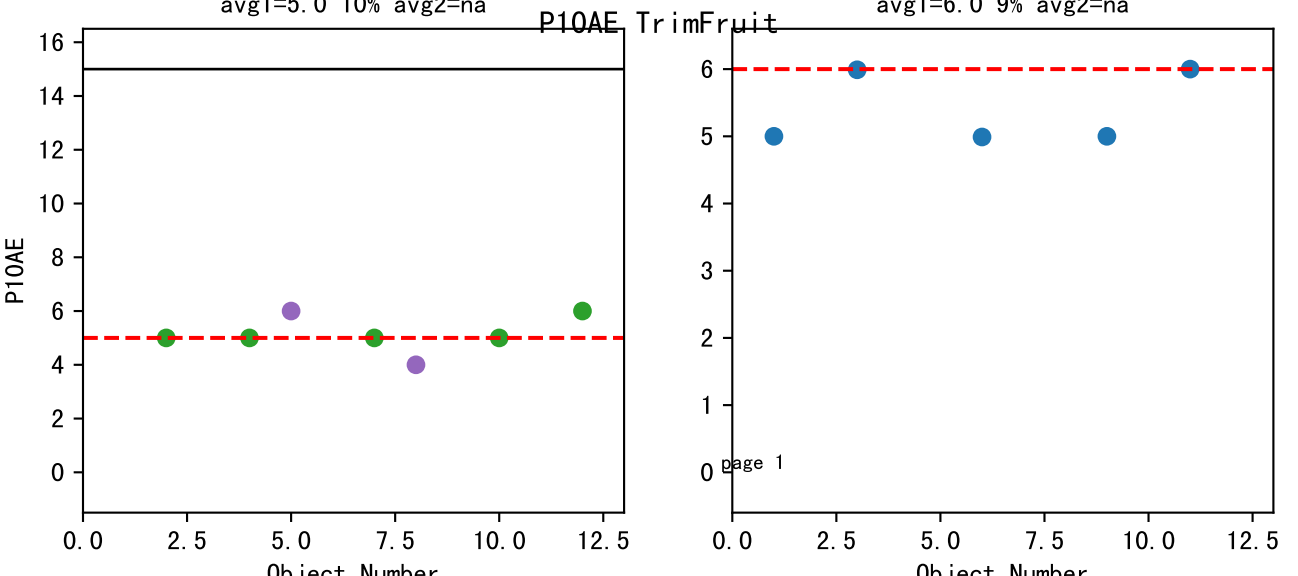
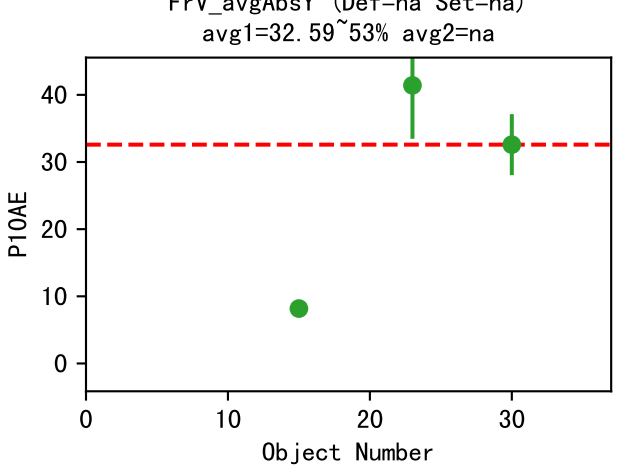
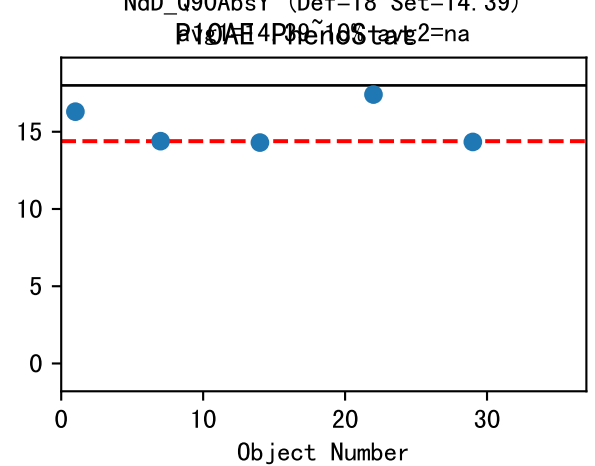
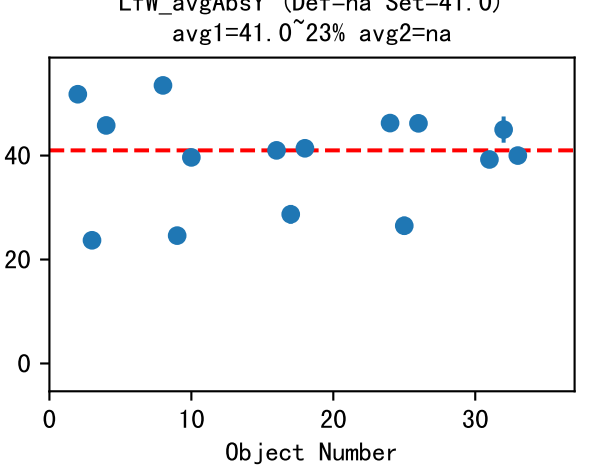

Phenotype Data Analysis Plots
PhenoData day range = 18 - 70
Analysis cutoff day = 70
NC11 P10
2025-12-28 (Day 71)

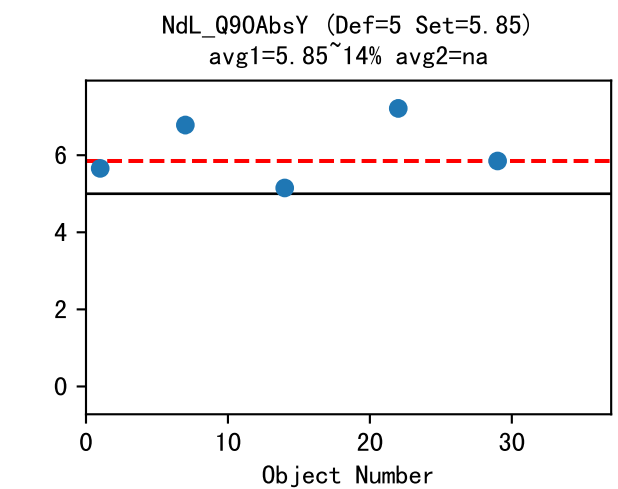

avg1=6.0 0% avg2=na
P10AE TrimTruss
P10AE
6
5
4
3
2
1
0
page 1
0
1
2
3
4
5
6
Object Number

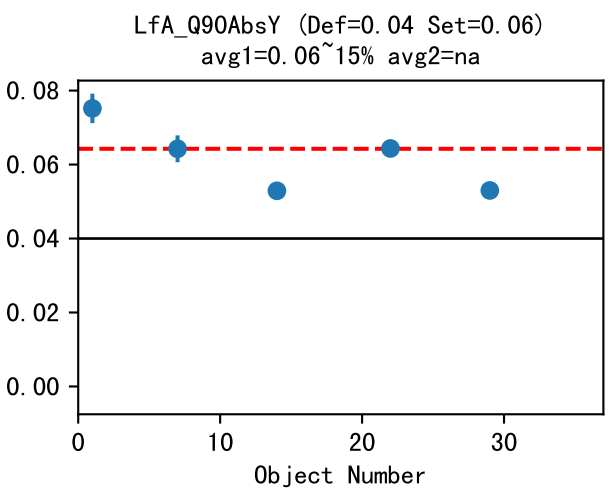

P10AE TrimFruit
avg1=5.0 10% avg2=na
avg1=6.0 9% avg2=na
P10AE
Object Number
Object Number
page 1

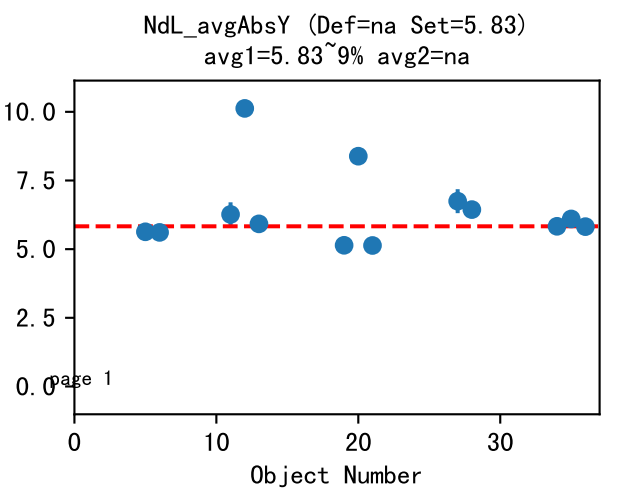

FrV_avgAbsY (Def=na Set=na)
avg1=32.59~53% avg2=na
P10AE
Object Number


NdD_Q90AbsY (Def=18 Set=14.39)
avg1=14.39~10% avg2=na
Object Number

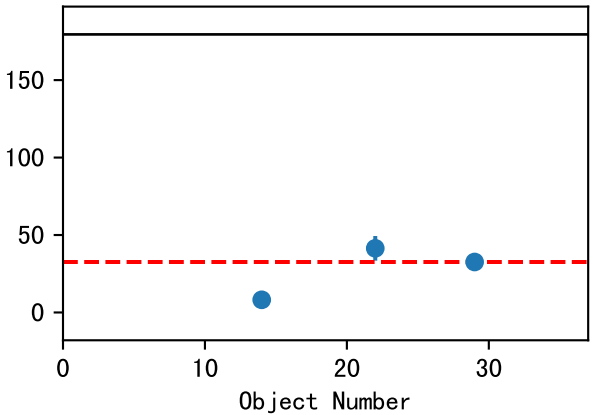

LfW_avgAbsY (Def=na Set=41.0)
avg1=41.0~23% avg2=na
Object Number


NdL_Q90AbsY (Def=5 Set=5.85)
avg1=5.85~14% avg2=na
Object Number

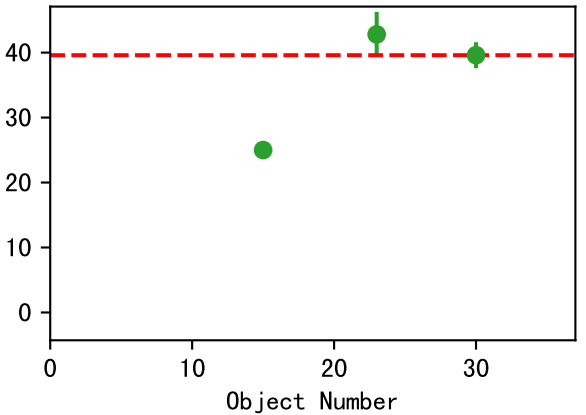

LfA_Q90AbsY (Def=0.04 Set=0.06)
avg1=0.06~15% avg2=na
Object Number


NdL_avgAbsY (Def=na Set=5.83)
avg1=5.83~9% avg2=na
page 1
Object Number

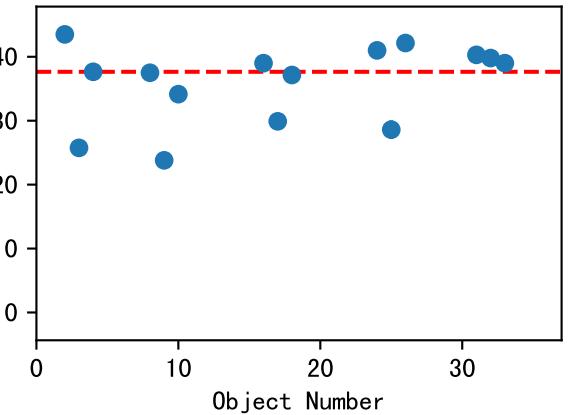
FrV_Q90AbsY (Def=179.5 Set=179.5)
avg1=32.59~53% avg2=na



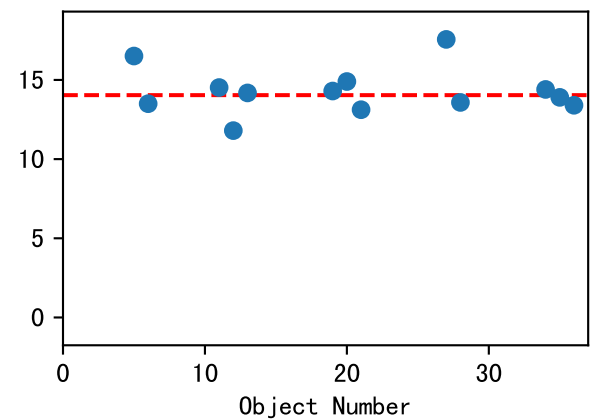
FrD_avgAbsY (Def=na Set=39.6)
avg1=39.6~24% avg2=na



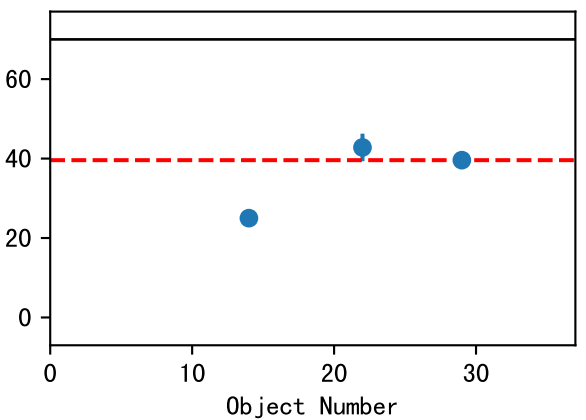
LfL_avgAbsY (Def=na Set=37.65)
avg1=37.65~16% avg2=na



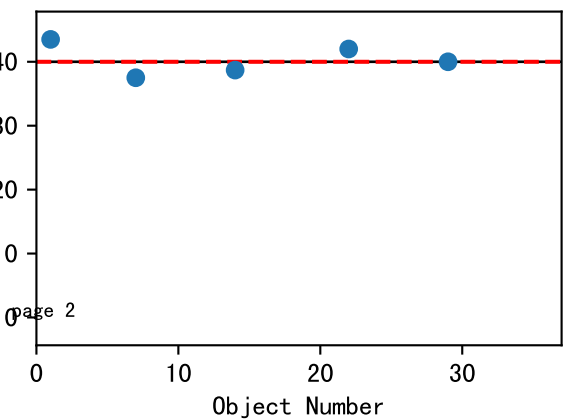
NdD_avgAbsY (Def=na Set=14.04)
avg1=14.04~4% avg2=na

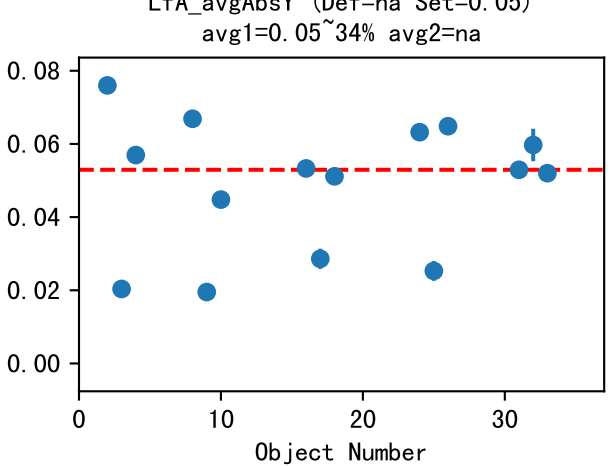


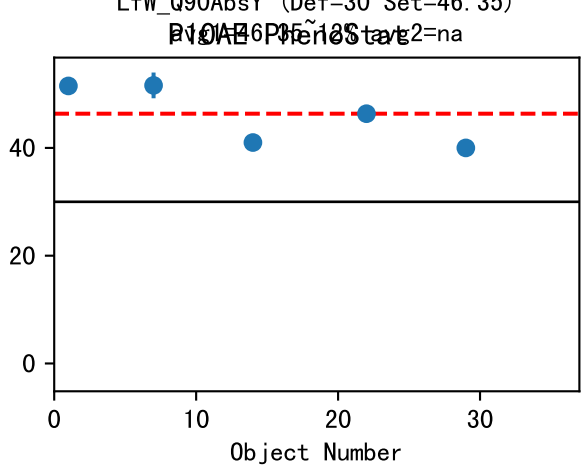
FrD_Q90AbsY (Def=70 Set=39.6)
avg1=39.6~24% avg2=na

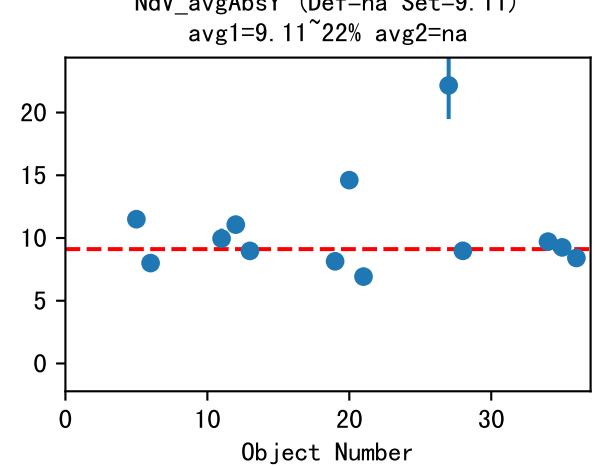


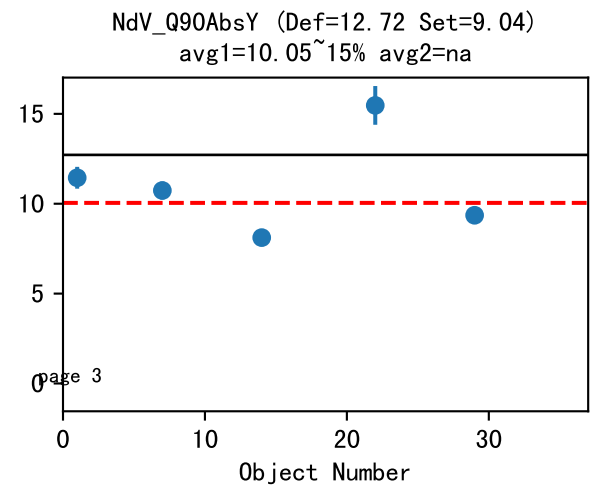
LfL_Q90AbsY (Def=40 Set=40.0)
avg1=40.0~6% avg2=na

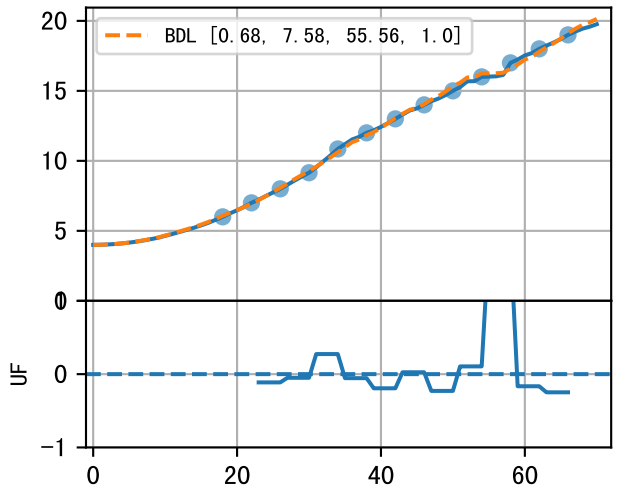


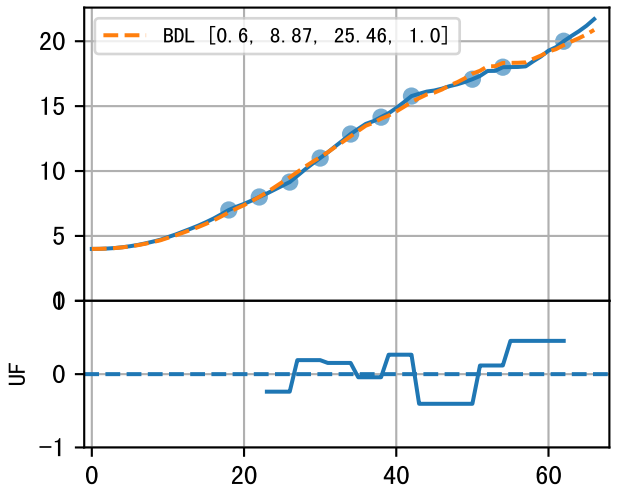

LfA_avgAbsY (Def=na Set=0.05)
avg1=0.05~34% avg2=na
0.08
0.06
0.04
0.02
0.00
0
10
20
30
Object Number

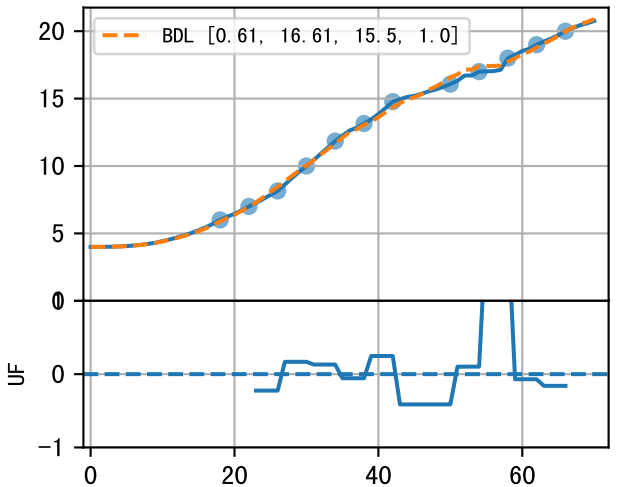

LfW_Q90AbsY (Def=30 Set=46.35)
avg1=46.85~12% avg2=na
40
20
0
0
10
20
30
Object Number

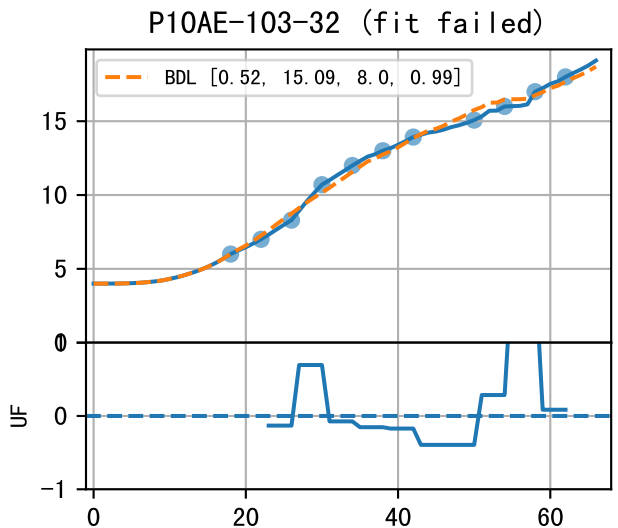

NdV_avgAbsY (Def=na Set=9.11)
avg1=9.11~22% avg2=na
20
15
10
5
0
0
10
20
30
Object Number

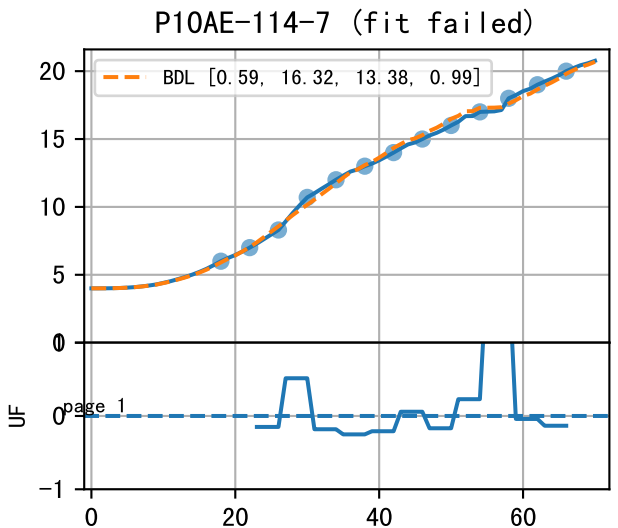

NdV_Q90AbsY (Def=12.72 Set=9.04)
avg1=10.05~15% avg2=na
15
10
5
0
page 3
0
10
20
30
Object Number

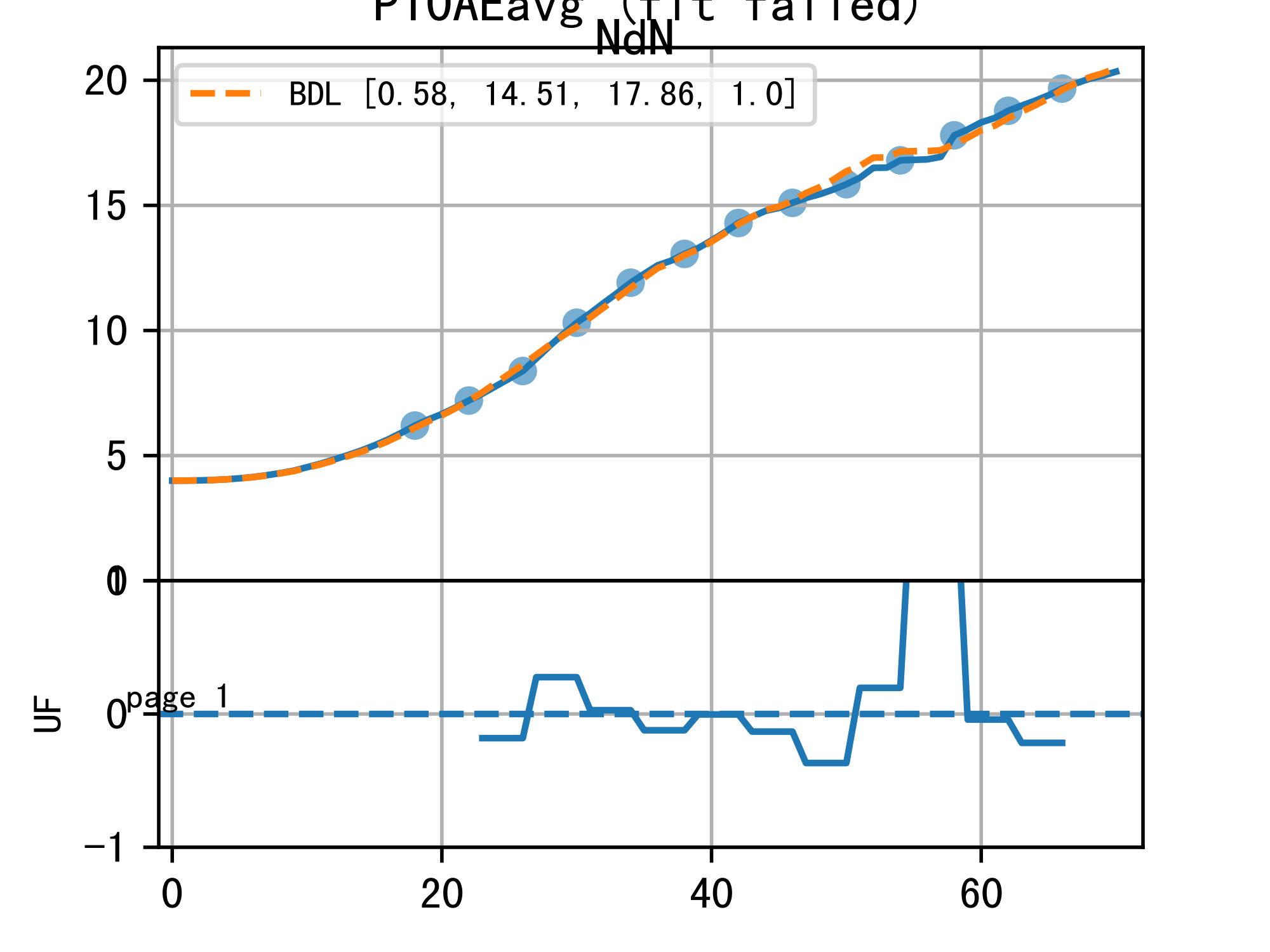

P10AE-081-12 (fit failed)
BDL [0.68, 7.58, 55.56, 1.0]
UF

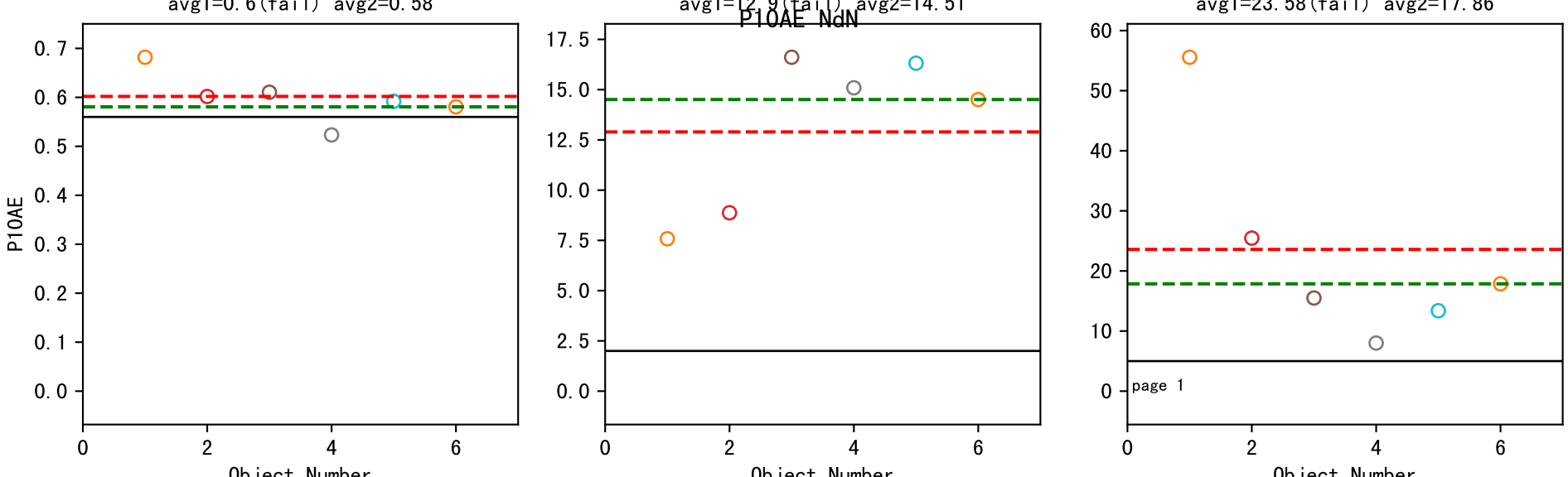

P10AE-087-27 (fit failed)
BDL [0.6, 8.87, 25.46, 1.0]
UF

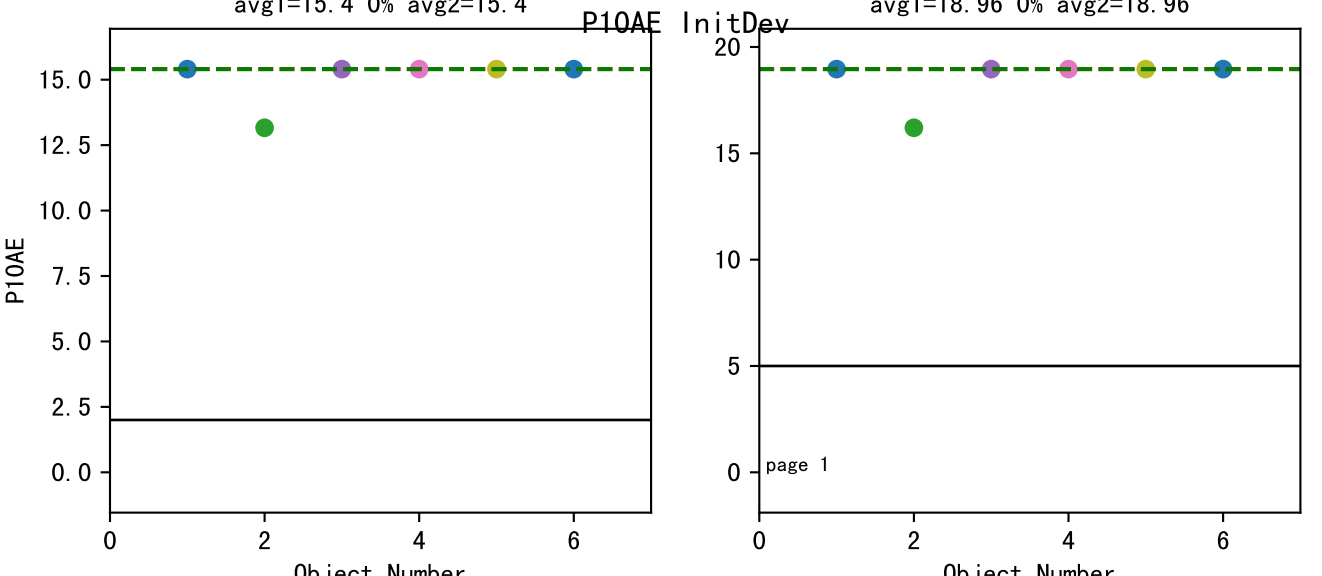

P10AE-095-20 (fit failed)
BDL [0.61, 16.61, 15.5, 1.0]
UF

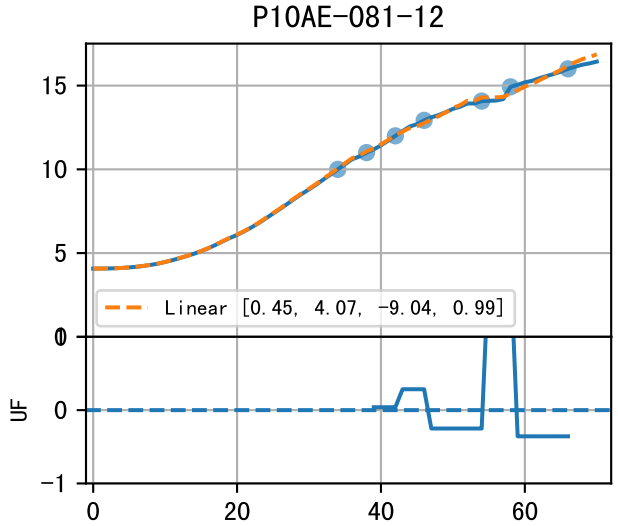

P10AE-103-32 (fit failed)
BDL [0.52, 15.09, 8.0, 0.99]
UF

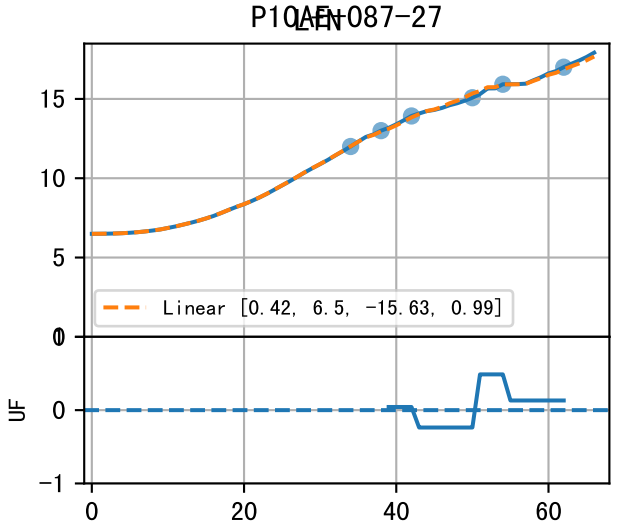

P10AE-114-7 (fit failed)
BDL [0.59, 16.32, 13.38, 0.99]
UF

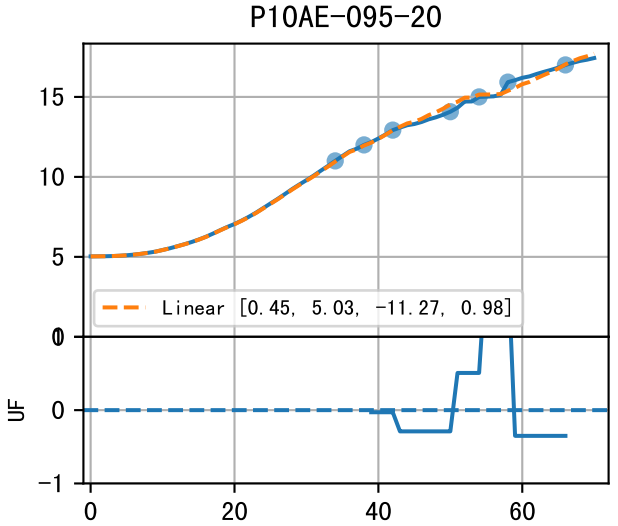

PT0AEavg (fit failed)
NdN
BDL [0.58, 14.51, 17.86, 1.0]
20
15
10
5
0
0
0
−1
UF
page 1
0
20
40
60

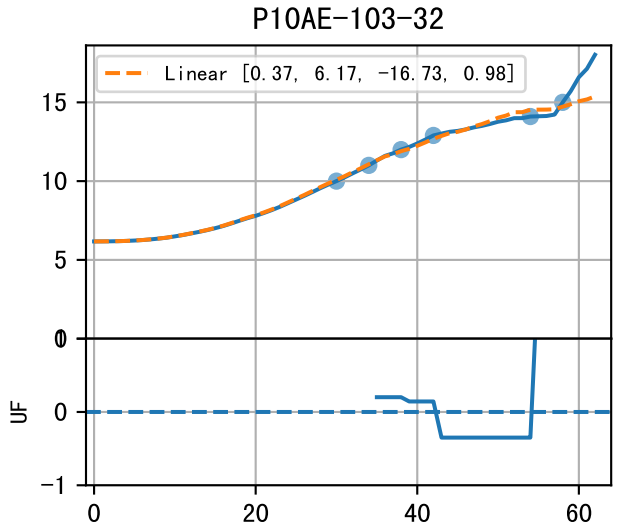

avg1=0.6(fail) avg2=0.58
avg1=12.9(fail) avg2=14.51
P10AE_NdN
avg1=23.58(fail) avg2=17.86
P10AE
Object_Number
page 1

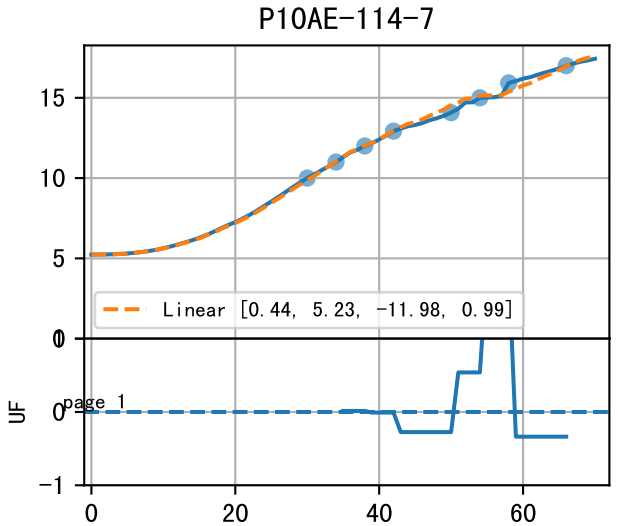

P10AE InitDev
avg1=15.4 0% avg2=15.4
avg1=18.96 0% avg2=18.96
P10AE
15.0
12.5
10.0
7.5
5.0
2.5
0.0
20
15
10
5
0
0
2
4
6
Object Number
page 1

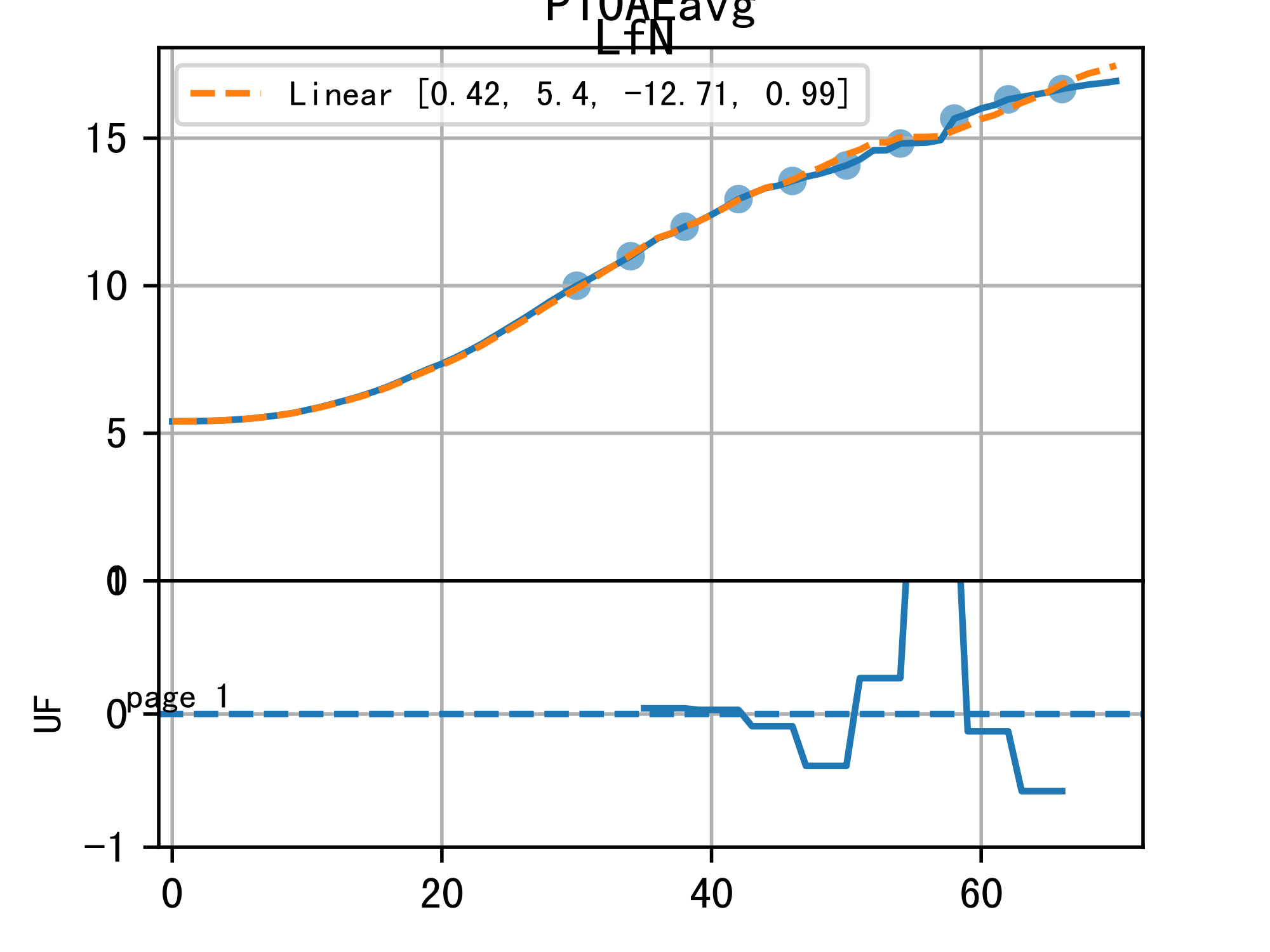

P10AE-081-12
Linear [0.45, 4.07, -9.04, 0.99]
UF
LEN

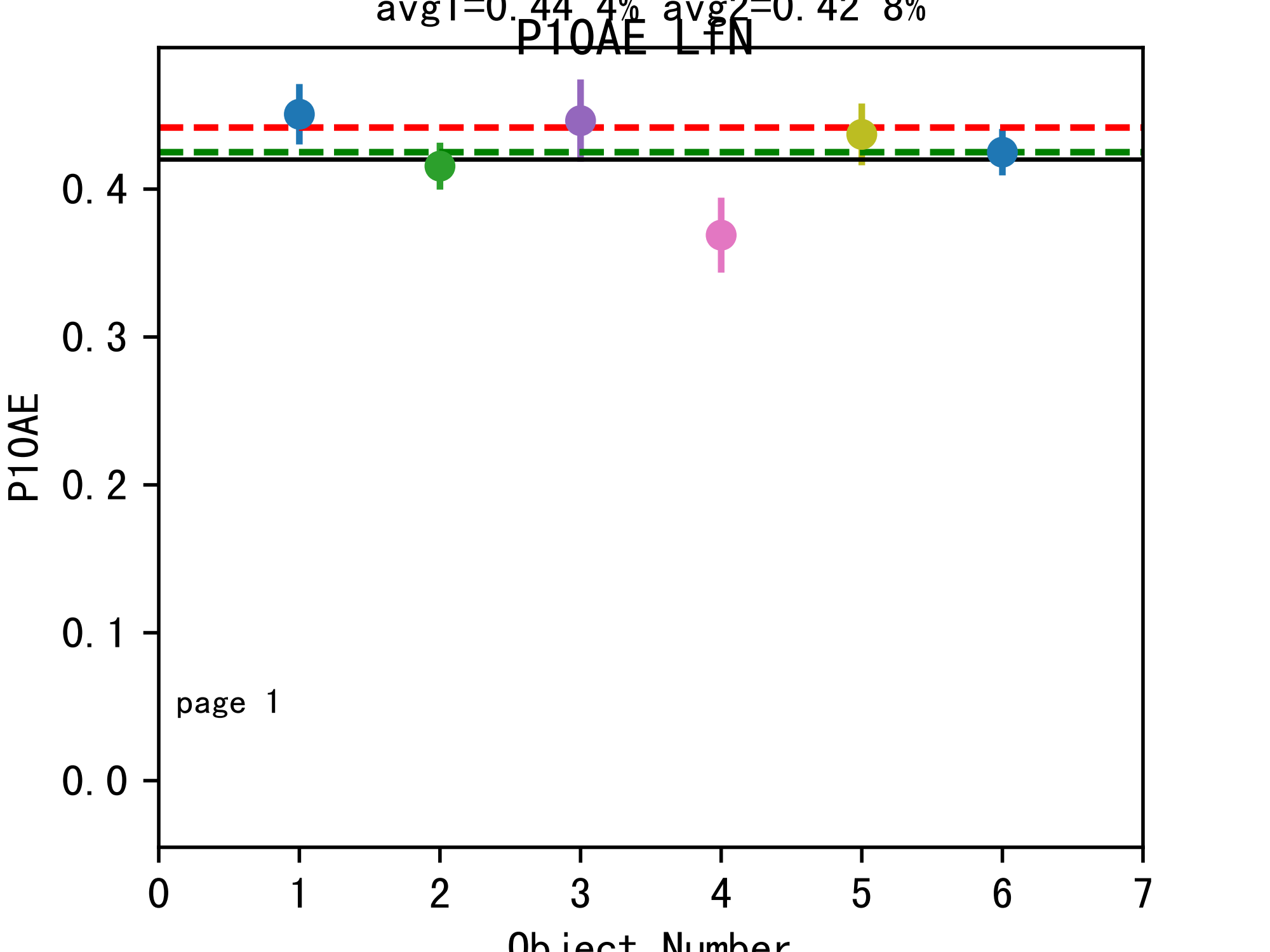

P10AE-087-27
Linear [0.42, 6.5, -15.63, 0.99]
UF


P10AE-095-20
Linear [0.45, 5.03, -11.27, 0.98]
UF

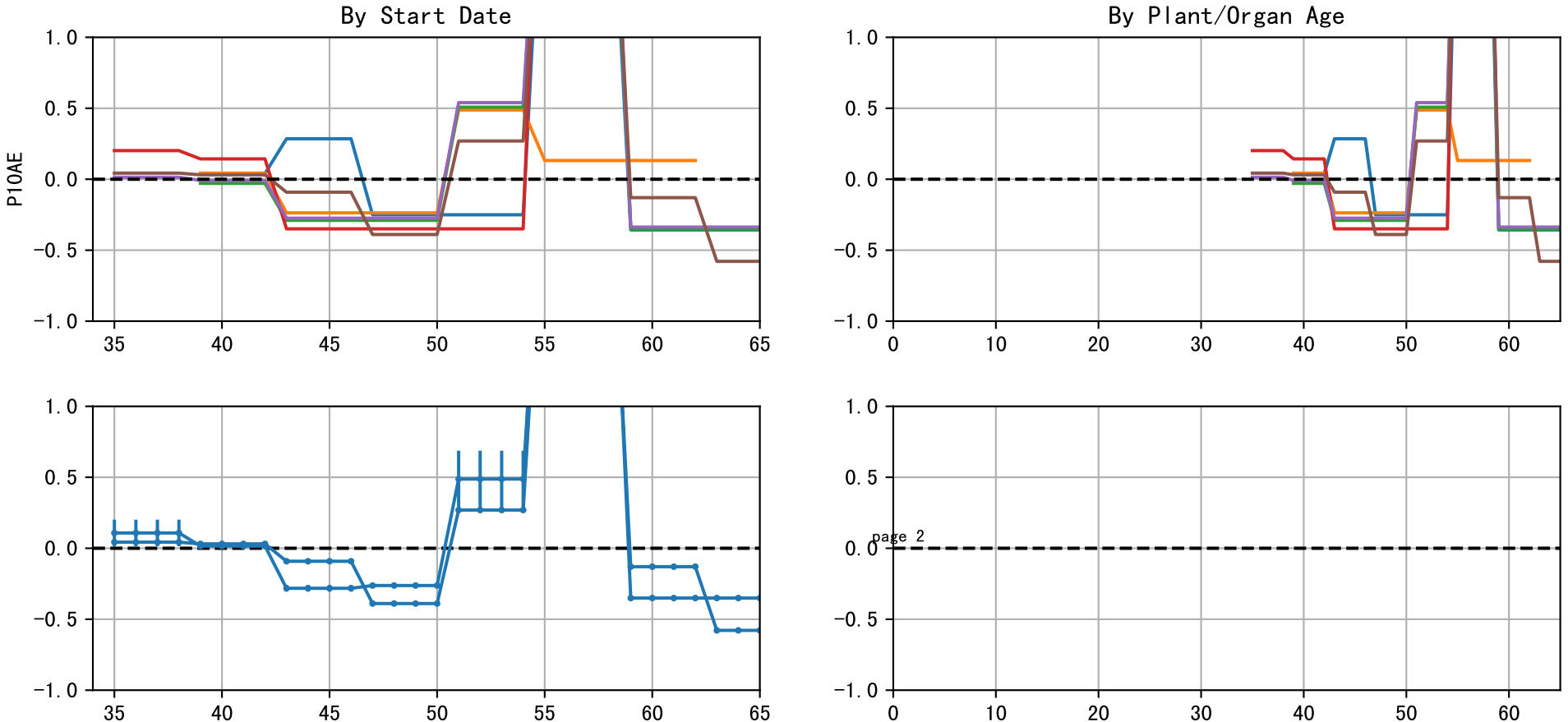

P10AE-103-32
Linear [0.37, 6.17, -16.73, 0.98]
UF

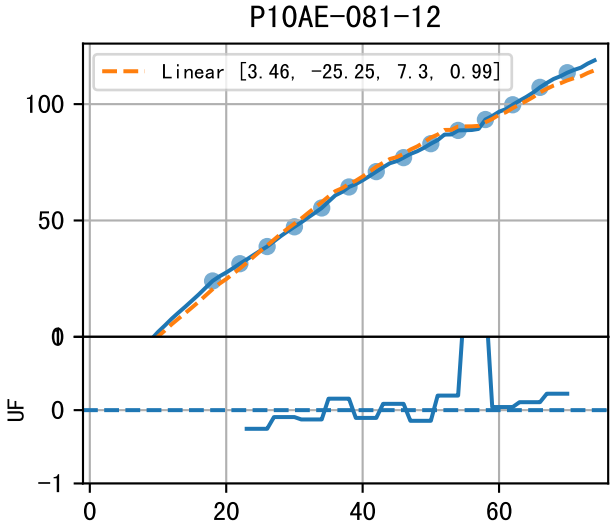

P10AE-114-7
Linear [0.44, 5.23, -11.98, 0.99]
UF

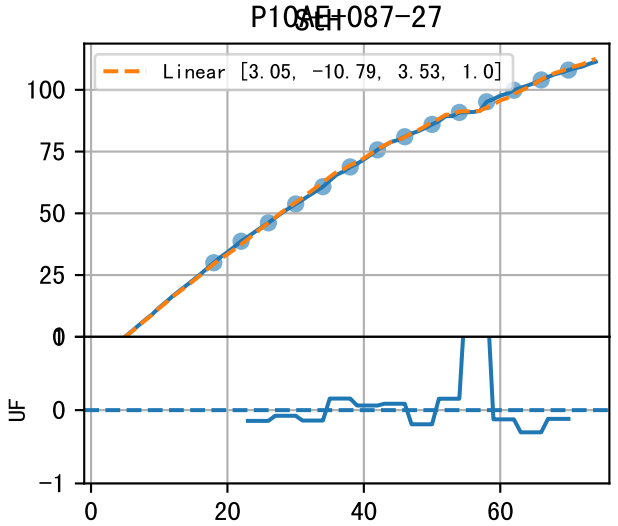

PTOAEavg
LfN
Linear [0.42, 5.4, -12.71, 0.99]
15
10
5
0
0
0
−1
UF
page 1
0
20
40
60

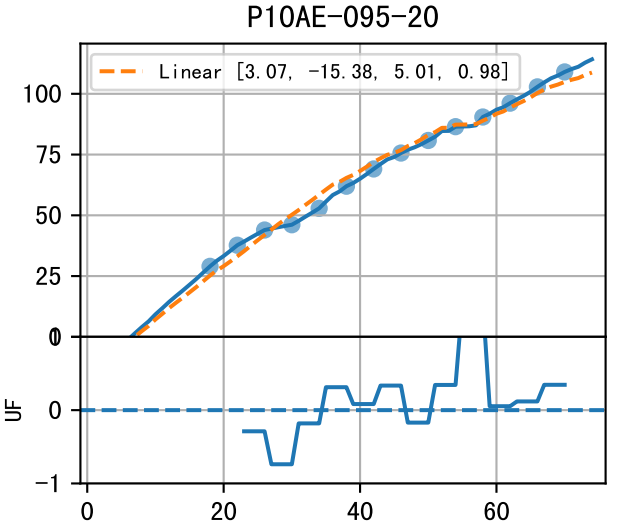

avg1=0.44 4% avg2=0.42 8%
P10AE LTN
P10AE
0.4
0.3
0.2
0.1
0.0
page 1
0
1
2
3
4
5
6
7
Object Number

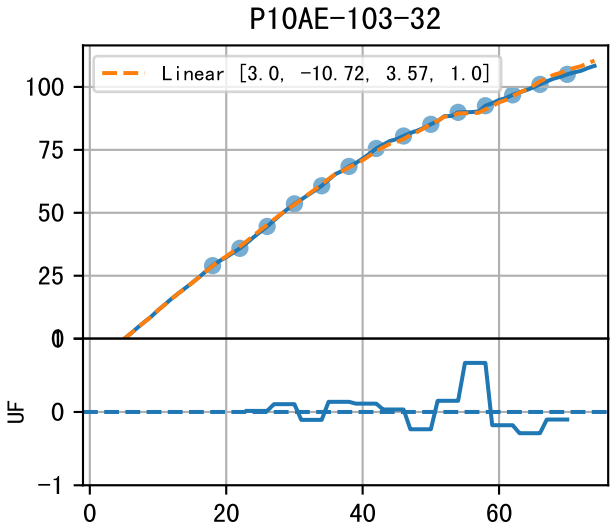
LfN

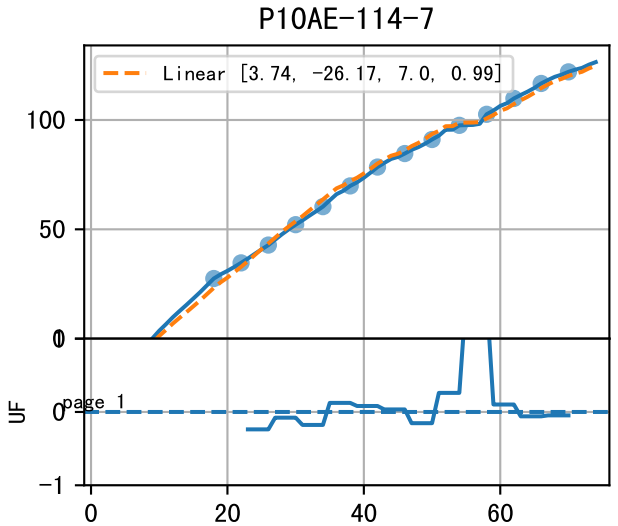

By Start Date
By Plant/Organ Age
P10AE
1.0
0.5
0.0
−0.5
−1.0
35
40
45
50
55
60
65
0
10
20
30
40
50
60
page 2

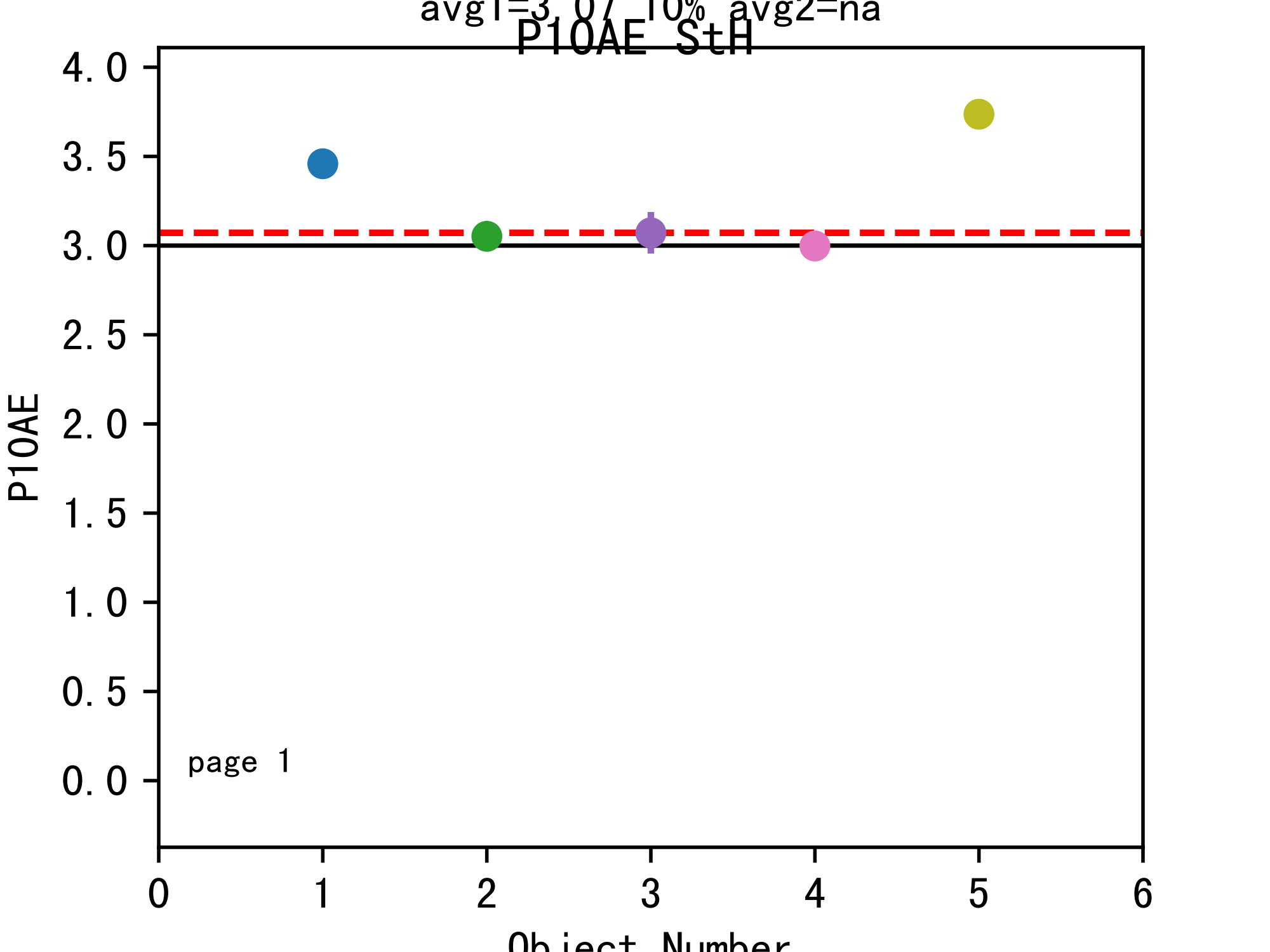

P10AE-081-12
Linear [3.46, -25.25, 7.3, 0.99]
UF


P10AE-087-27
Linear [3.05, -10.79, 3.53, 1.0]
UF

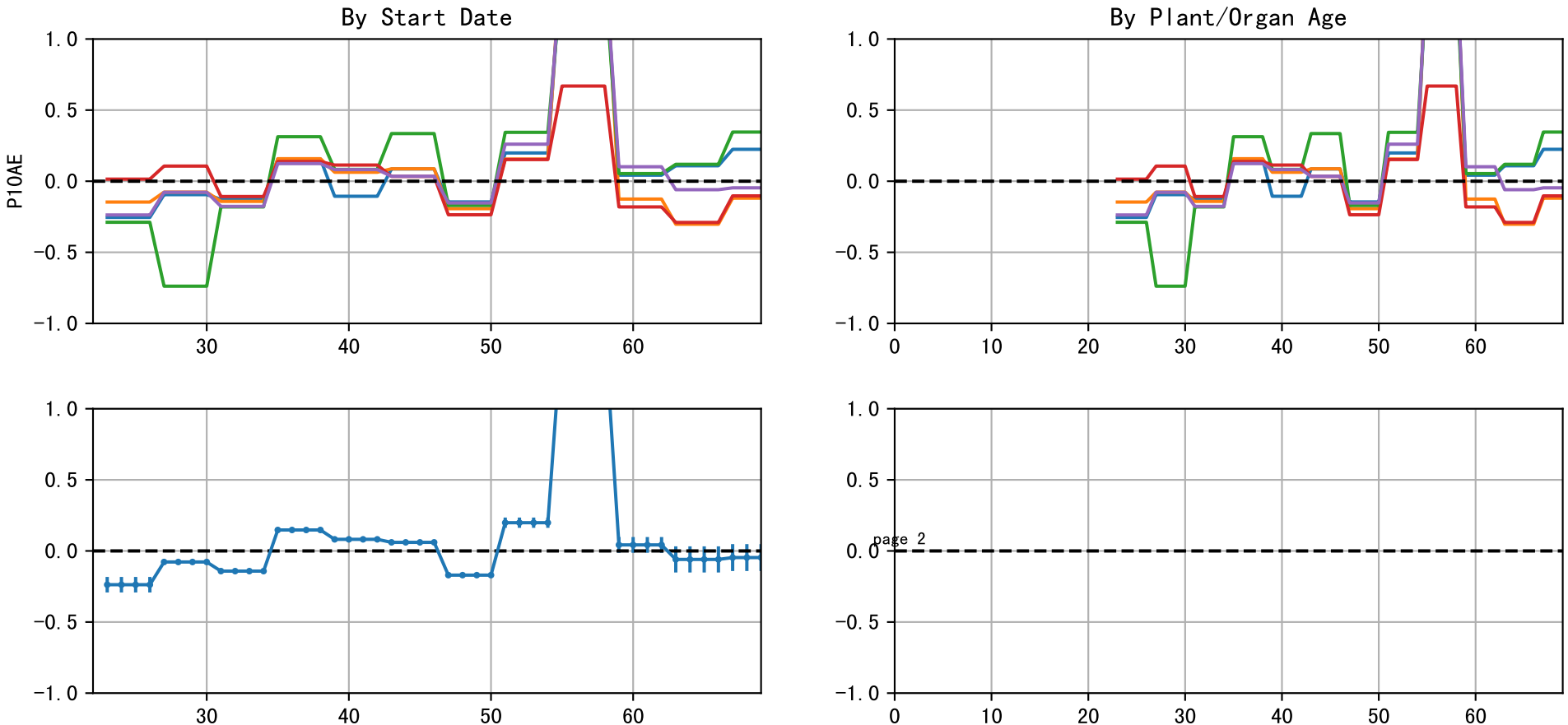

P10AE-095-20
Linear [3.07, -15.38, 5.01, 0.98]
UF

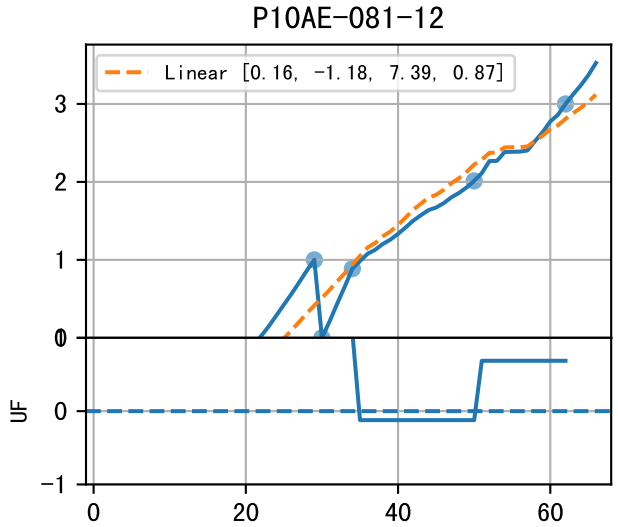

P10AE-103-32
Linear [3.0, -10.72, 3.57, 1.0]
UF

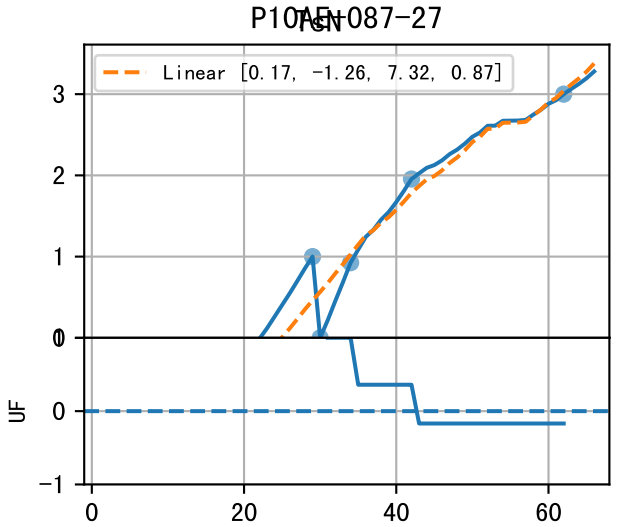

P10AE-114-7
Linear [3.74, -26.17, 7.0, 0.99]
UF

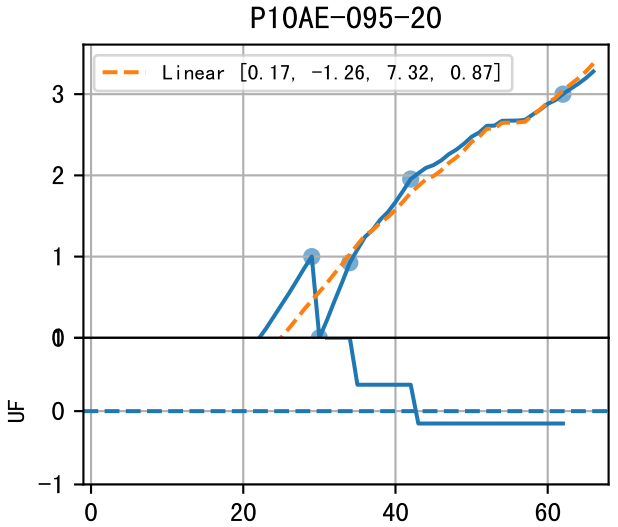

avg1=3.07 10% avg2=na
P10AE StH
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
P10AE
page 1
0
1
2
3
4
5
6
Object Number

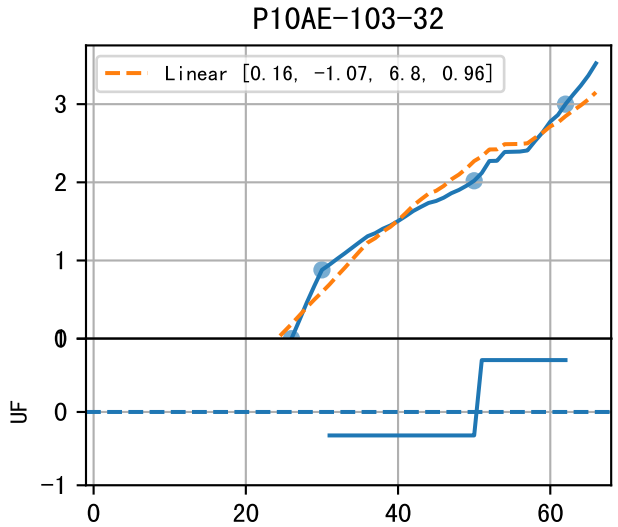
StH

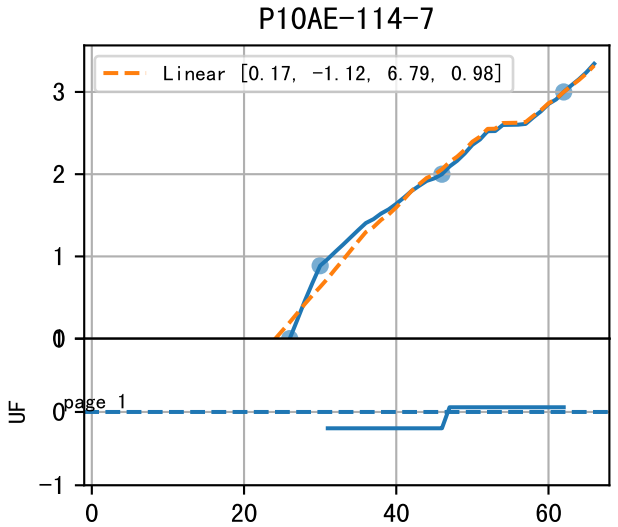

By Start Date
By Plant/Organ Age
P10AE
1.0
0.5
0.0
−0.5
−1.0
30
40
50
60
0
10
20
page 2

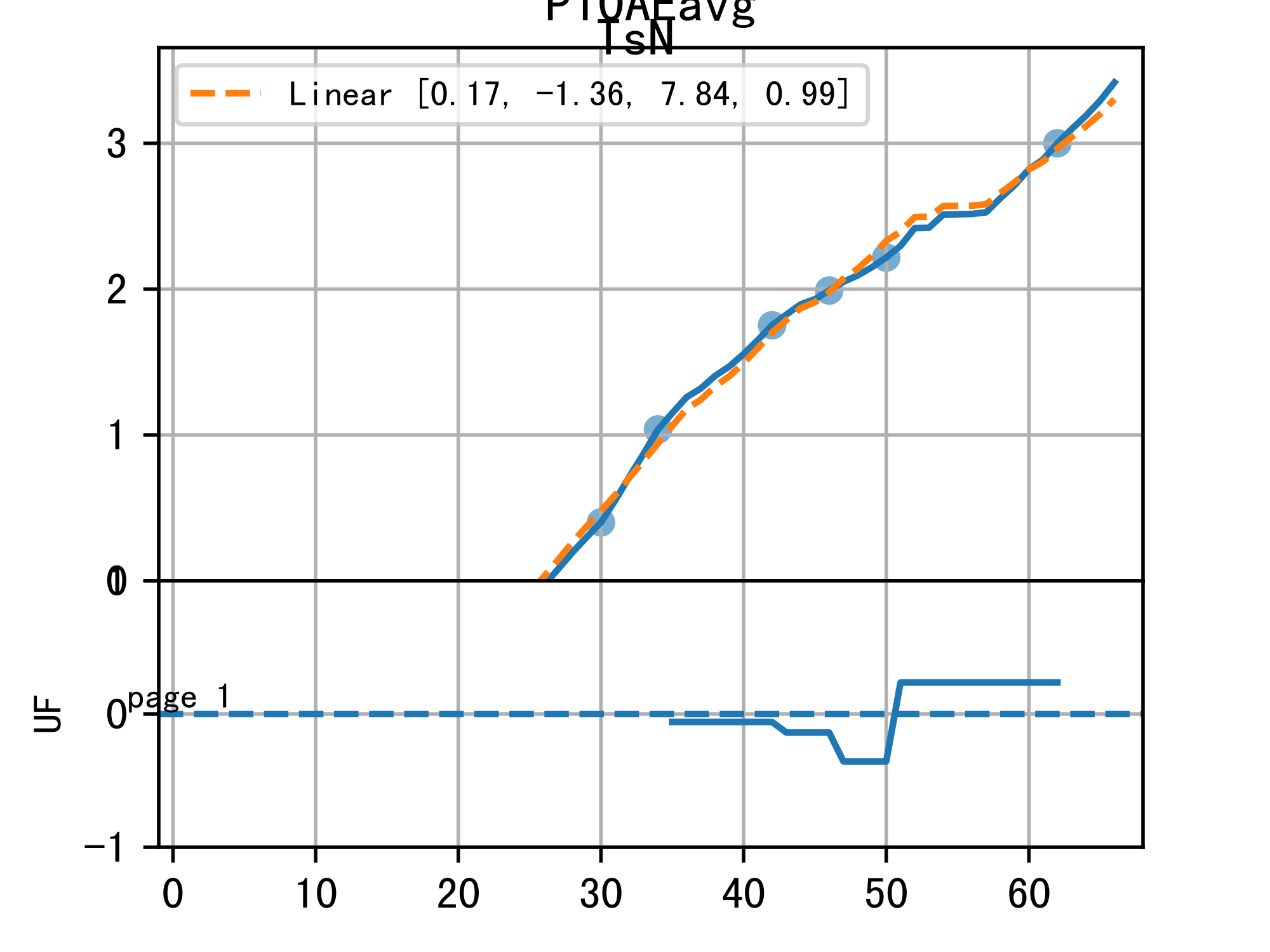

P10AE-081-12
Linear [0.16, -1.18, 7.39, 0.87]
UF
TSN

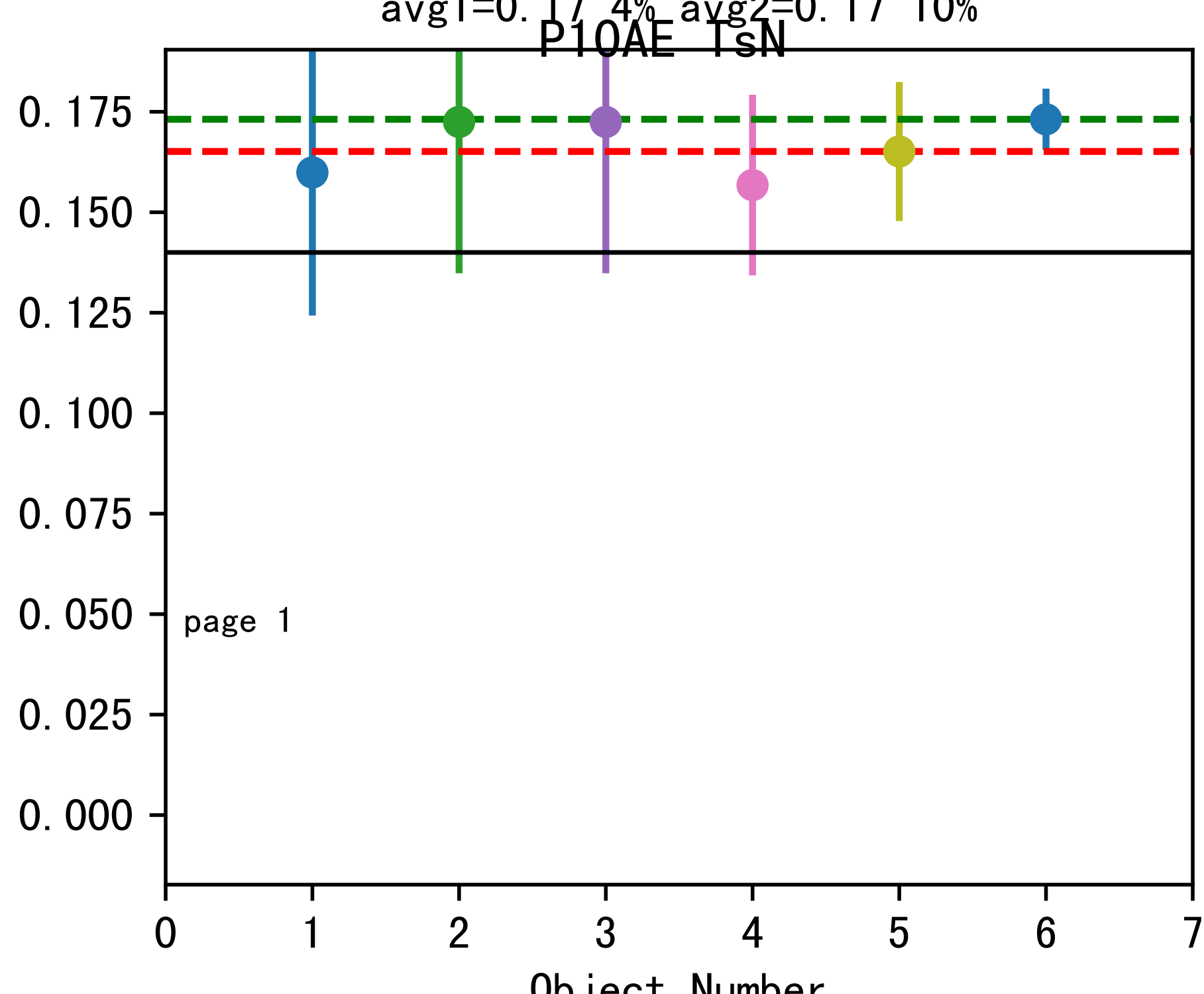

P10AE-087-27
Linear [0.17, -1.26, 7.32, 0.87]
UF
TSN


P10AE-095-20
Linear [0.17, -1.26, 7.32, 0.87]
UF
TSN

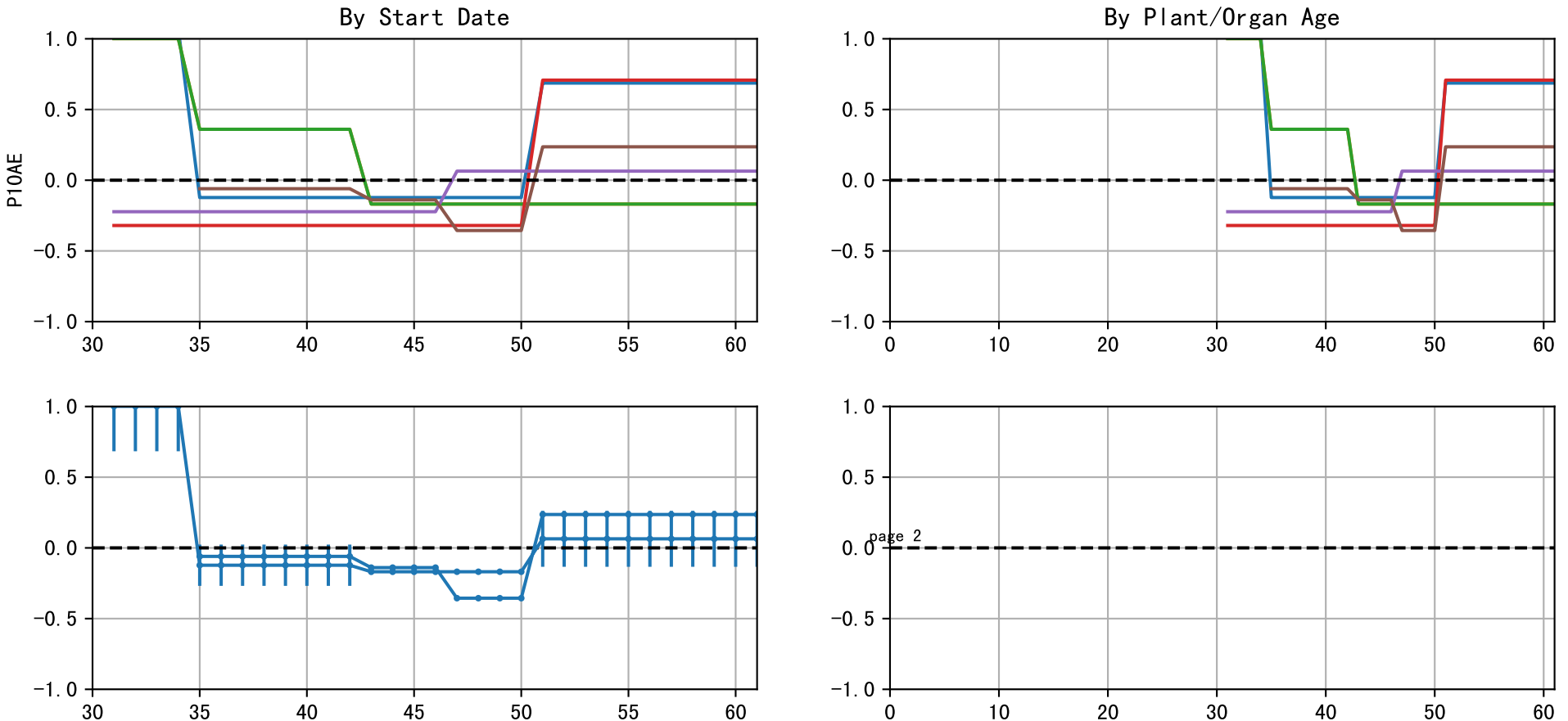

P10AE-103-32
Linear [0.16, -1.07, 6.8, 0.96]
UF
TSN

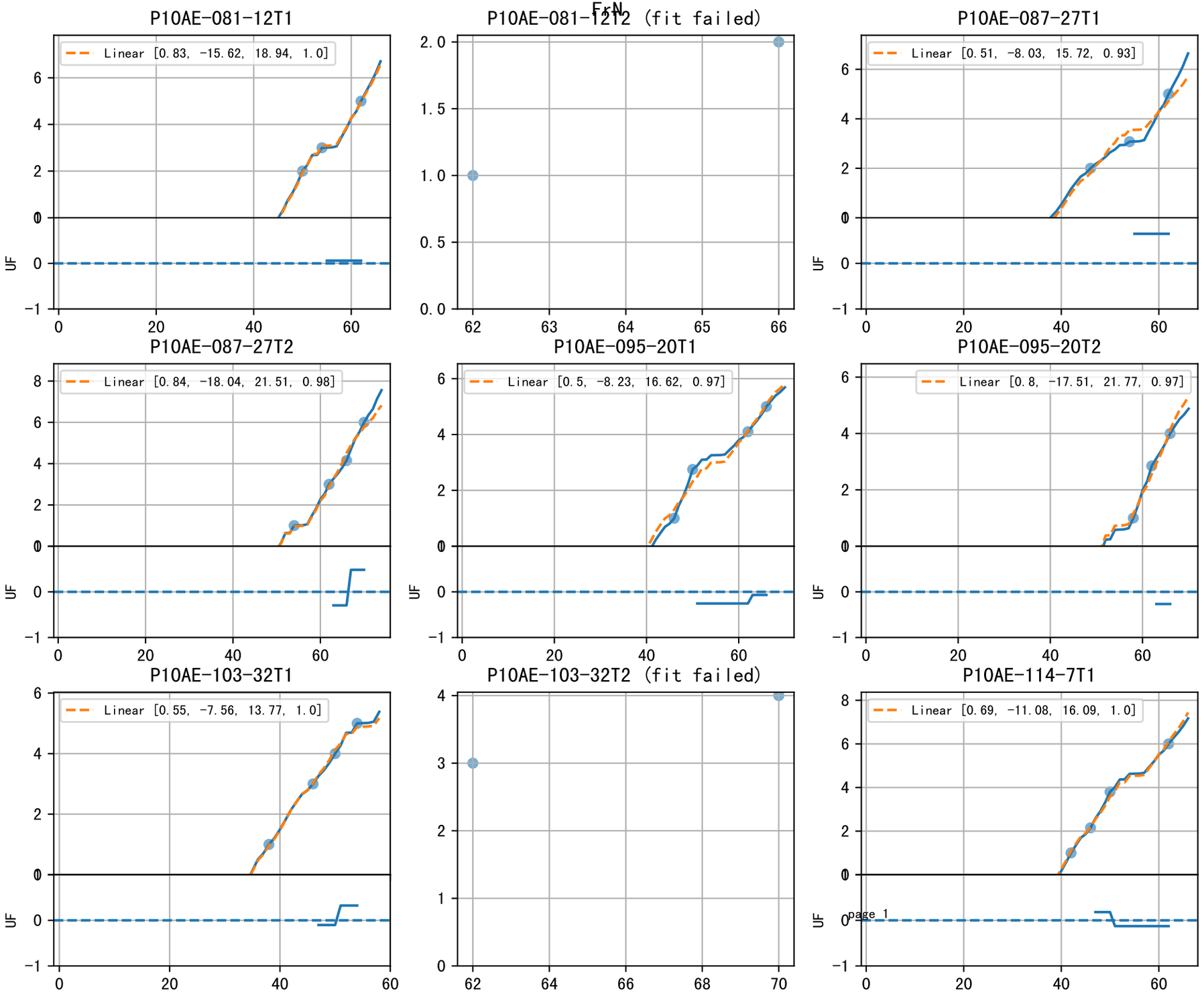

P10AE-114-7
Linear [0.17, -1.12, 6.79, 0.98]
UF
TSN


TEOAEavg
TsN
Linear [0.17, -1.36, 7.84, 0.99]
3
2
1
0
0
-1
UF
page 1
0
10
20
30
40
50
60

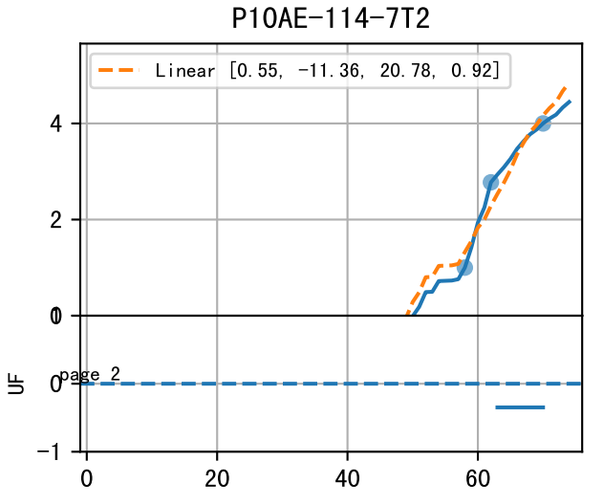

avg1=0.17 4% avg2=0.17 10%
P10AE TsN
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
page 1
0
1
2
3
4
5
6
7
Object Number

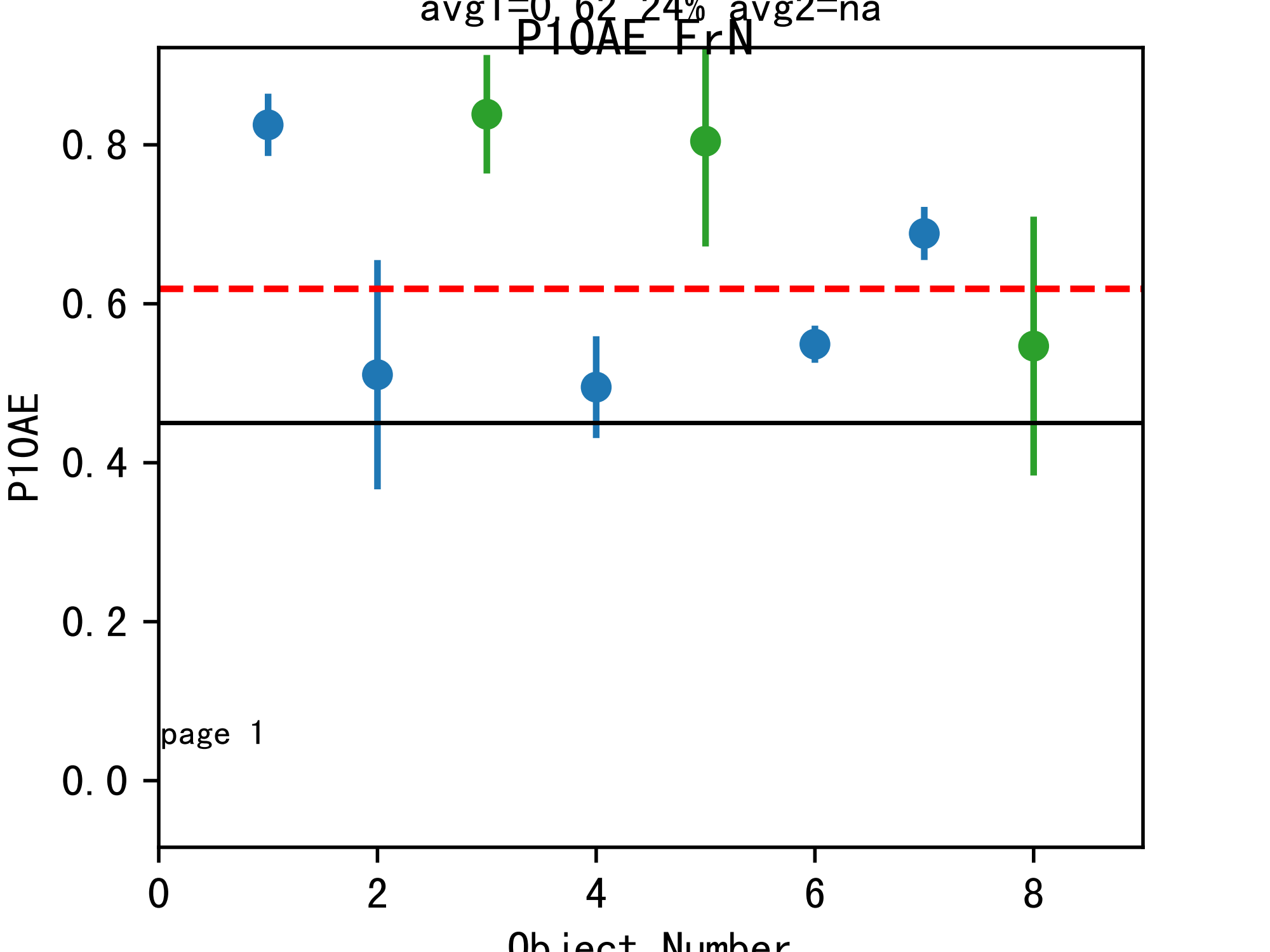
TsN


By Start Date
By Plant/Organ Age
P10AE
1.0
0.5
0.0
−0.5
−1.0
30
35
40
45
50
55
60
0
10
20
30
40
50
60
page 2

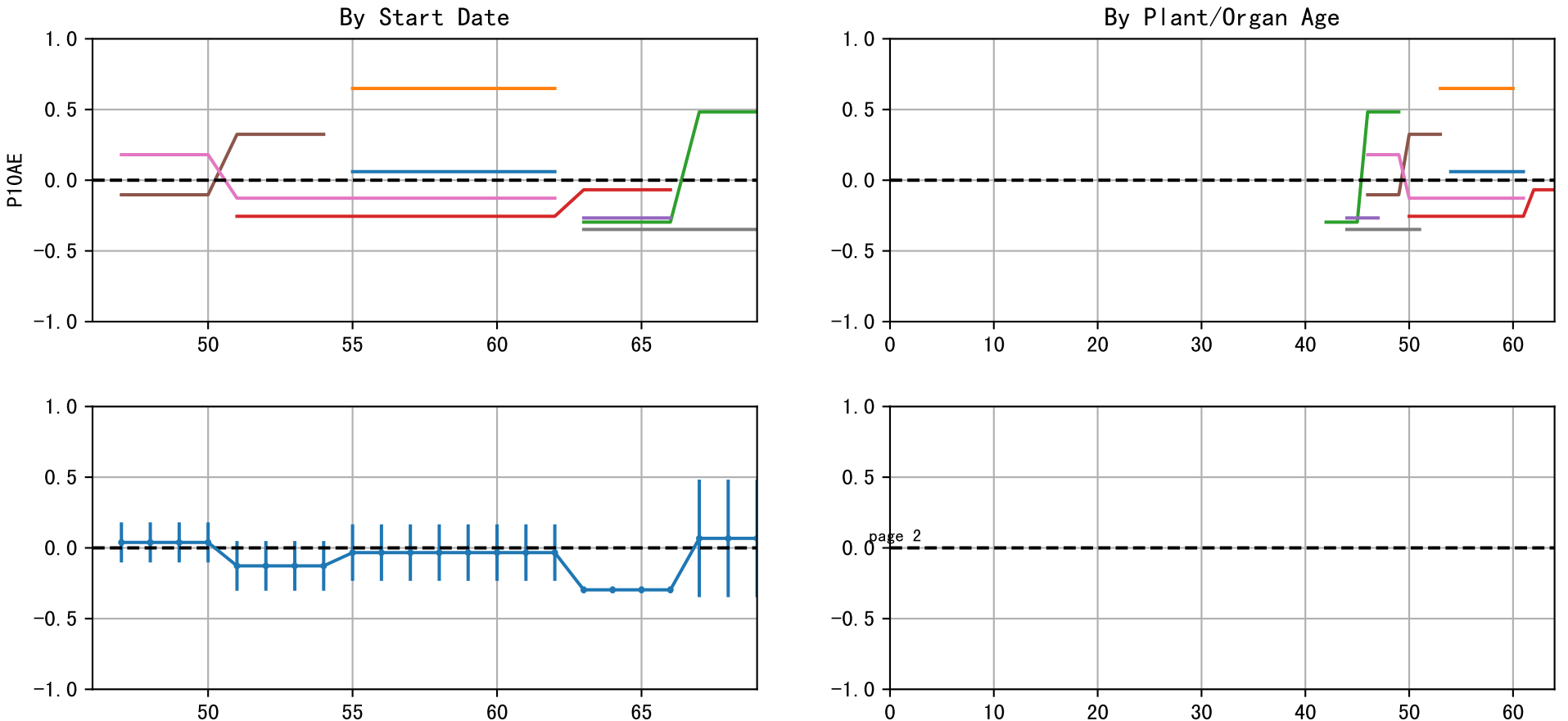

P10AE-081-12T1
Linear [0.83, -15.62, 18.94, 1.0]
P10AE-081-12T2 (fit failed)
P10AE-087-27T1
Linear [0.51, -8.03, 15.72, 0.93]
P10AE-087-27T2
Linear [0.84, -18.04, 21.51, 0.98]
P10AE-095-20T1
Linear [0.5, -8.23, 16.62, 0.97]
P10AE-095-20T2
Linear [0.8, -17.51, 21.77, 0.97]
P10AE-103-32T1
Linear [0.55, -7.56, 13.77, 1.0]
P10AE-103-32T2 (fit failed)
P10AE-114-7T1
Linear [0.69, -11.08, 16.09, 1.0]
UF

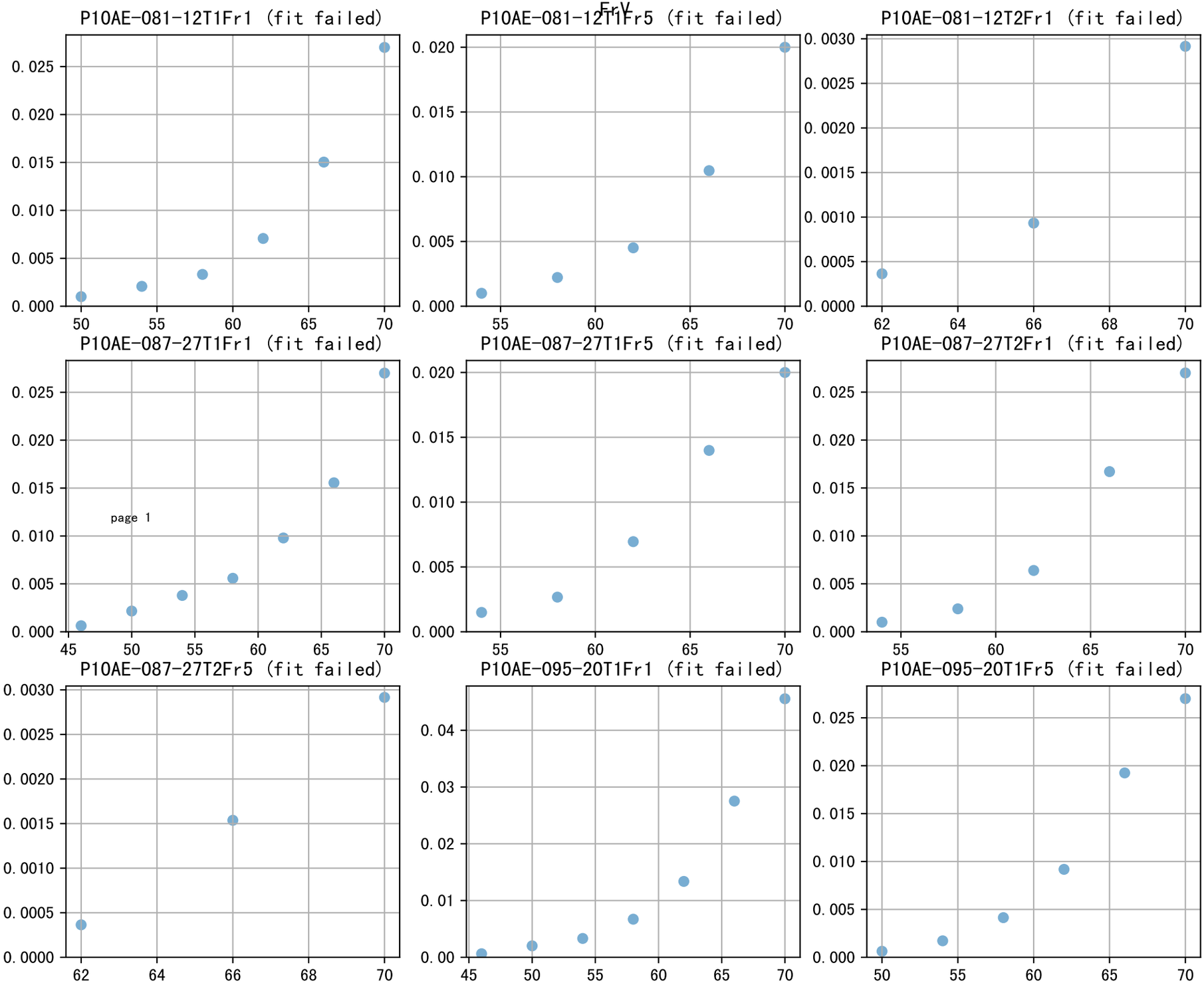
FrN

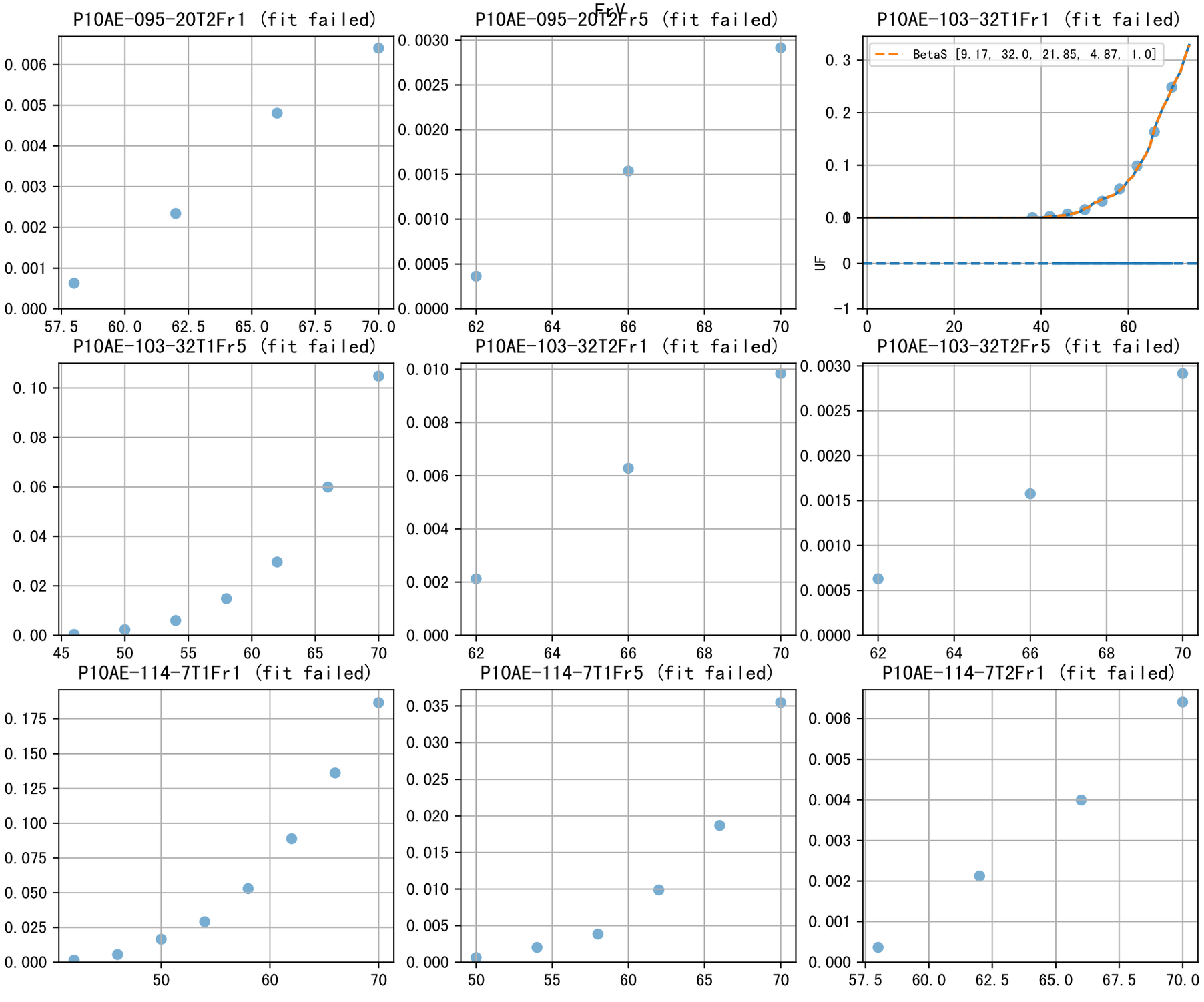

P10AE-114-7T2
Linear [0.55, -11.36, 20.78, 0.92]
UF
page 2
4
2
0
0
-1
0
20
40
60


avg1=0.62 24% avg2=na
P10AE FrN
0.8
0.6
0.4
0.2
0.0
P10AE
page 1
0
2
4
6
8
Object Number

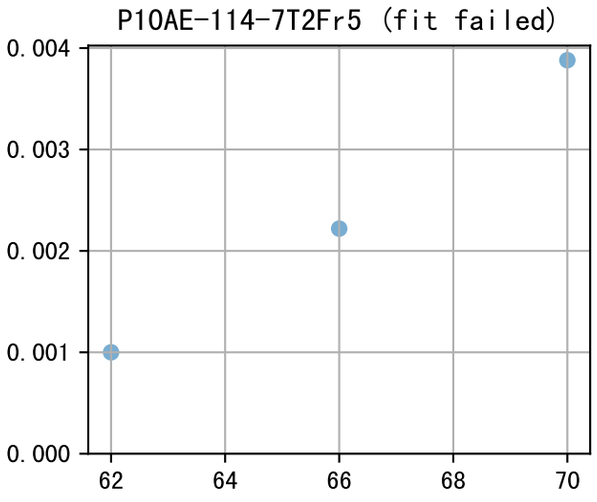
FrN

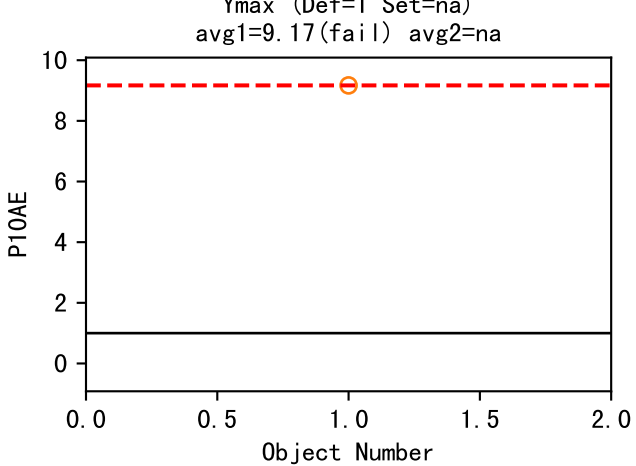

By Start Date
By Plant/Organ Age
P10AE
1.0
0.5
0.0
−0.5
−1.0
50
55
60
65
0
10
20
30
40
50
60
page 2

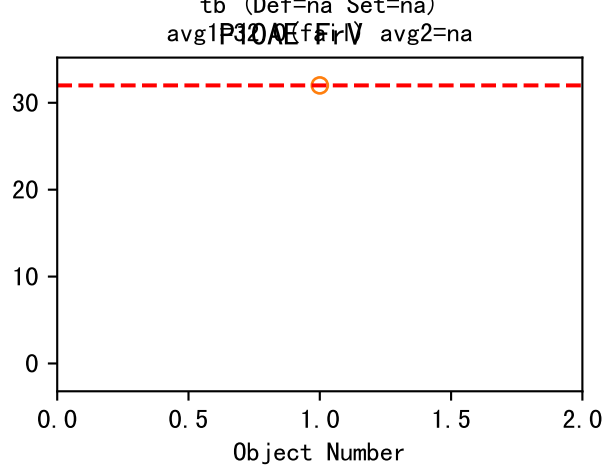

FrV
P10AE-081-12T1Fr1 (fit failed)
P10AE-081-12T1Fr5 (fit failed)
P10AE-081-12T2Fr1 (fit failed)
P10AE-087-27T1Fr1 (fit failed)
page 1
P10AE-087-27T1Fr5 (fit failed)
P10AE-087-27T2Fr1 (fit failed)
P10AE-087-27T2Fr5 (fit failed)
P10AE-095-20T1Fr1 (fit failed)
P10AE-095-20T1Fr5 (fit failed)

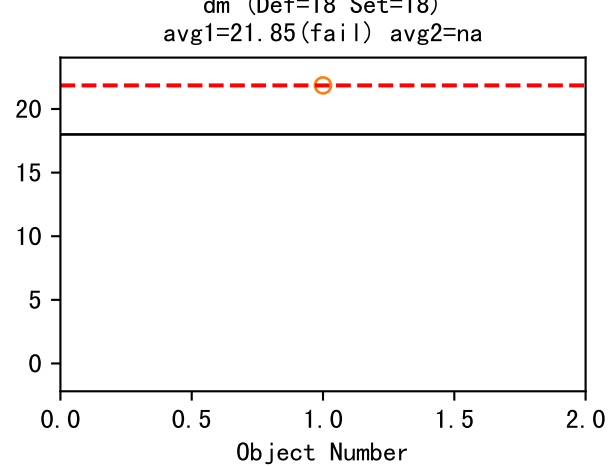

FrV
P10AE-095-20T2Fr1 (fit failed)
P10AE-095-20T2Fr5 (fit failed)
P10AE-103-32T1Fr1 (fit failed)
BetaS [9.17, 32.0, 21.85, 4.87, 1.0]
UF
P10AE-103-32T1Fr5 (fit failed)
P10AE-103-32T2Fr1 (fit failed)
P10AE-103-32T2Fr5 (fit failed)
P10AE-114-7T1Fr1 (fit failed)
P10AE-114-7T1Fr5 (fit failed)
P10AE-114-7T2Fr1 (fit failed)

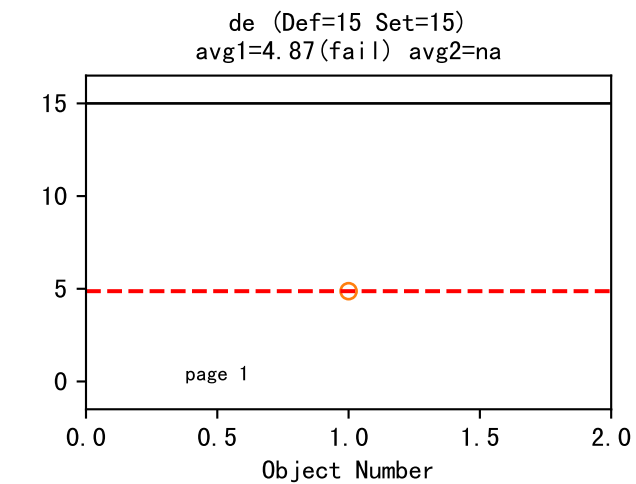
FrV

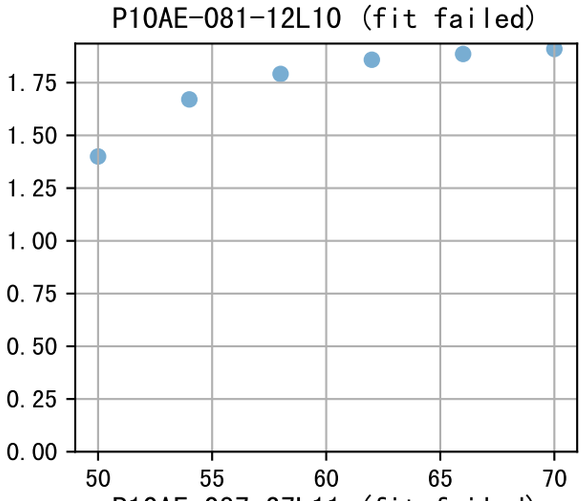

P10AE-114-7T2Fr5 (fit failed)
0.004
0.003
0.002
0.001
0.000
62
64
66
68
70

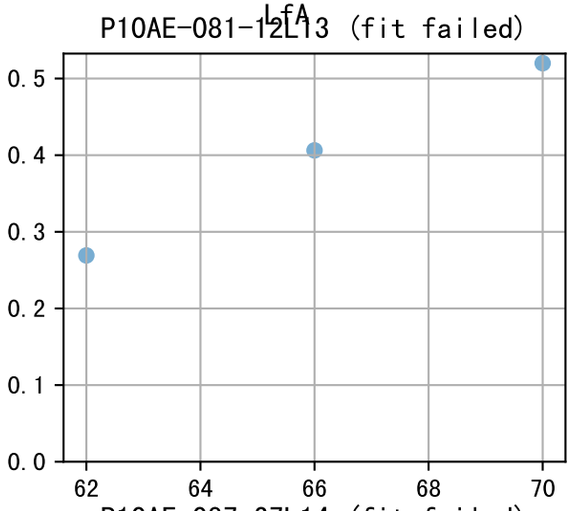

Ymax (Def=1 Set=na)
avg1=9.17(fail) avg2=na
P10AE
Object Number

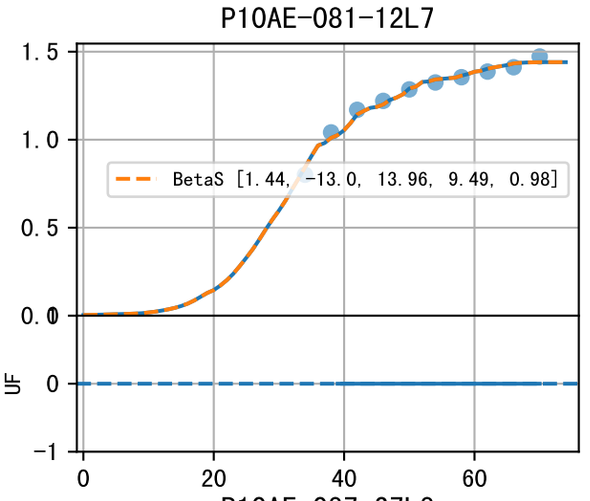

tb (Def=na Set=na)
avg1=32.00(fail) avg2=na
P10AE
Object Number

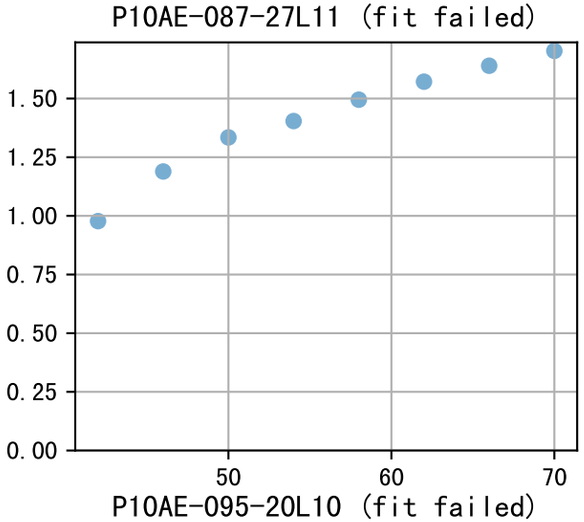

dm (Def=18 Set=18)
avg1=21.85(fail) avg2=na
Object Number

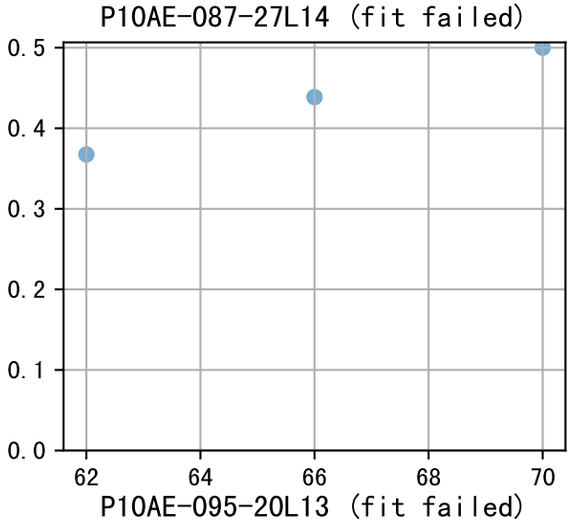

de (Def=15 Set=15)
avg1=4.87(fail) avg2=na
page 1
Object Number

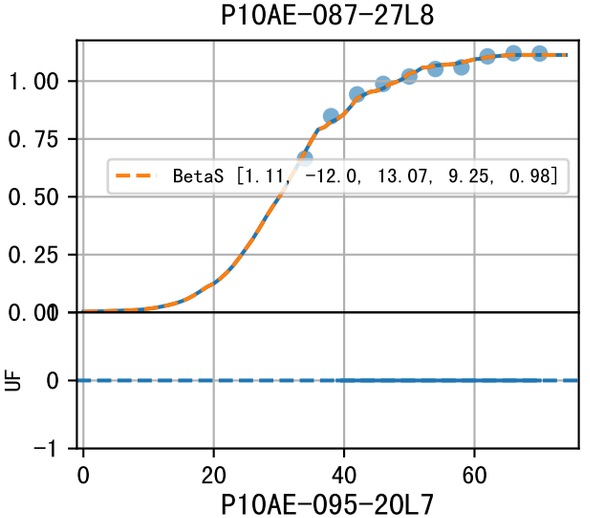

P10AE-081-12L10 (fit failed)

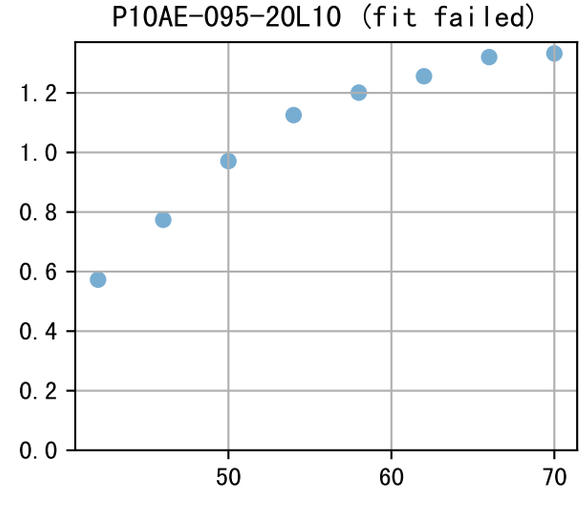

P10AE-081-12L13 (fit failed)

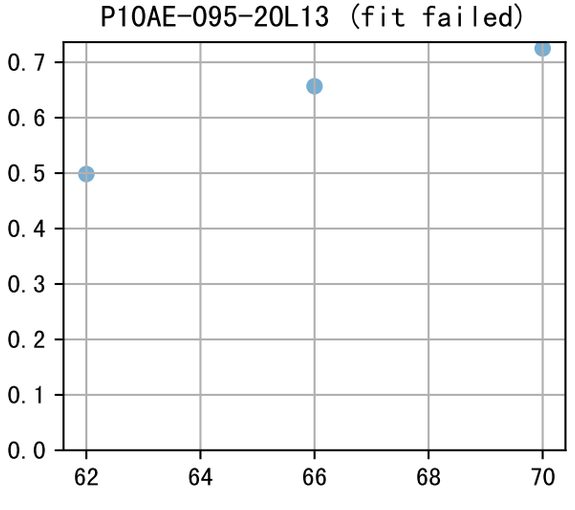

P10AE-081-12L7
BetaS [1.44, -13.0, 13.96, 9.49, 0.98]
UF

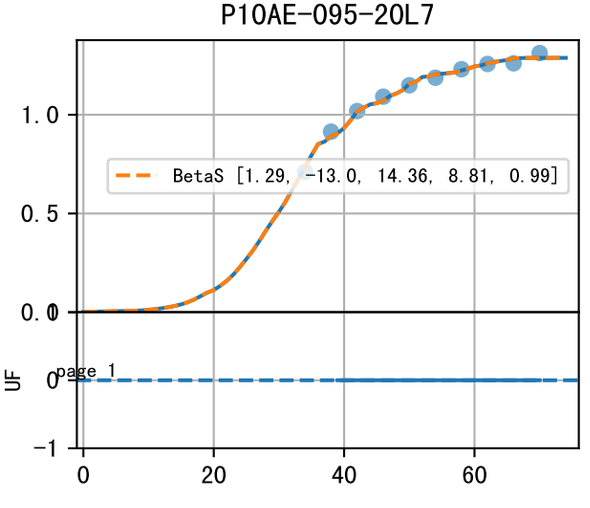

P10AE-087-27L11 (fit failed)

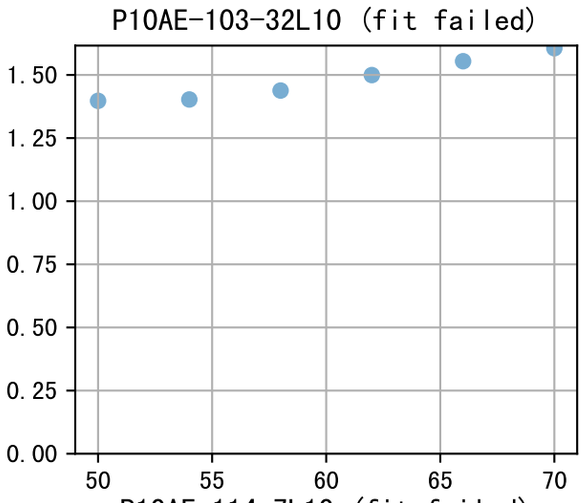

P10AE-087-27L14 (fit failed)

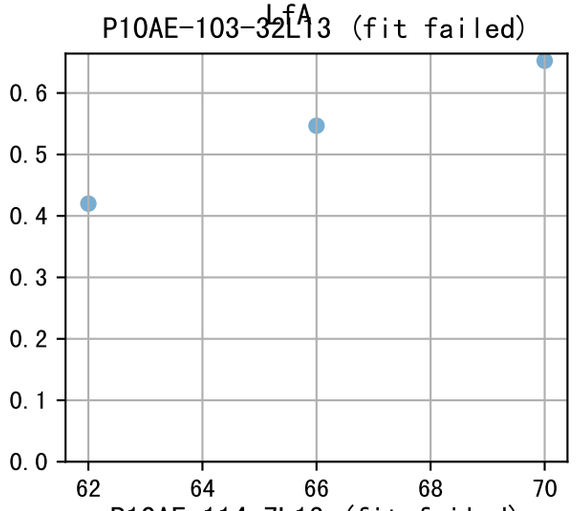

P10AE-087-27L8
BetaS [1.11, -12.0, 13.07, 9.25, 0.98]
UF

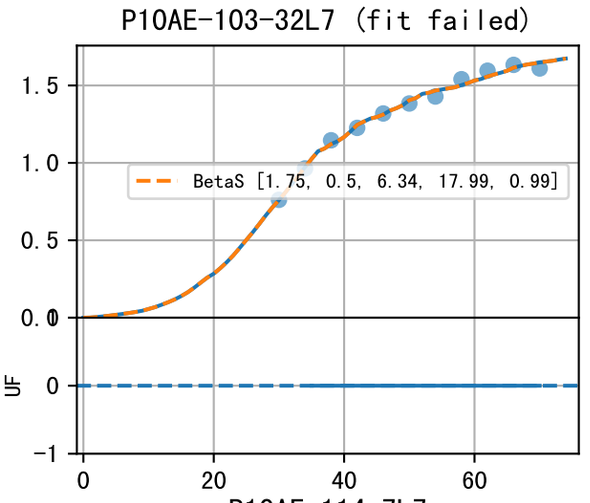

P10AE-095-20L10 (fit failed)

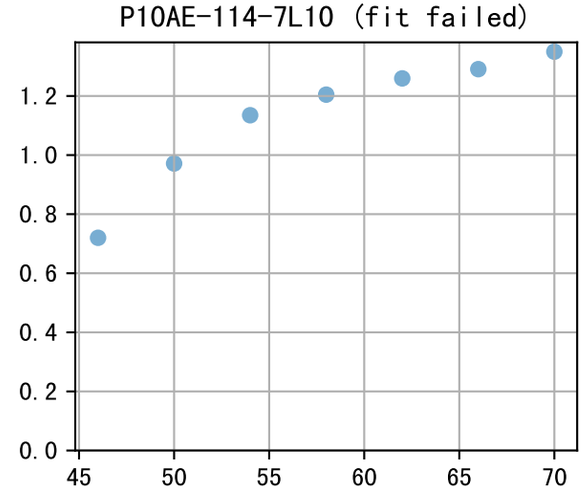

P10AE-095-20L13 (fit failed)

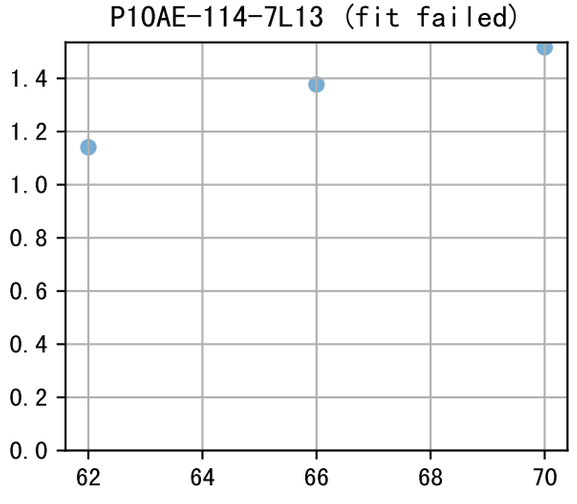

P10AE-095-20L7
BetaS [1.29, -13.0, 14.36, 8.81, 0.99]
UF

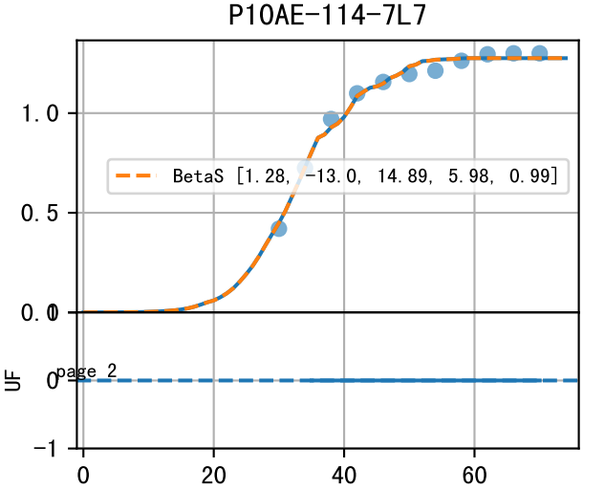

P10AE-103-32L10 (fit failed)

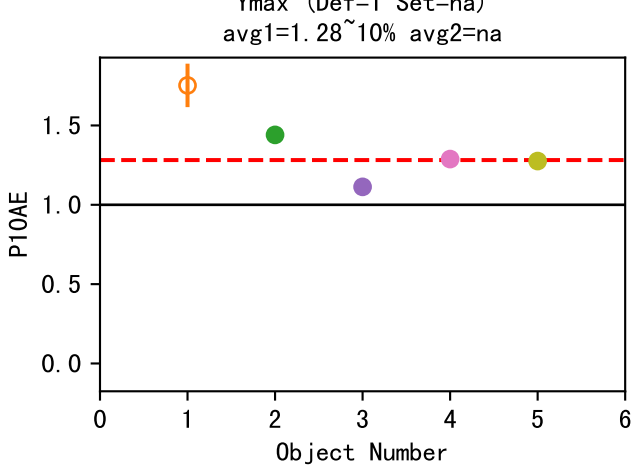

P10AE-103-32L13 (fit failed)

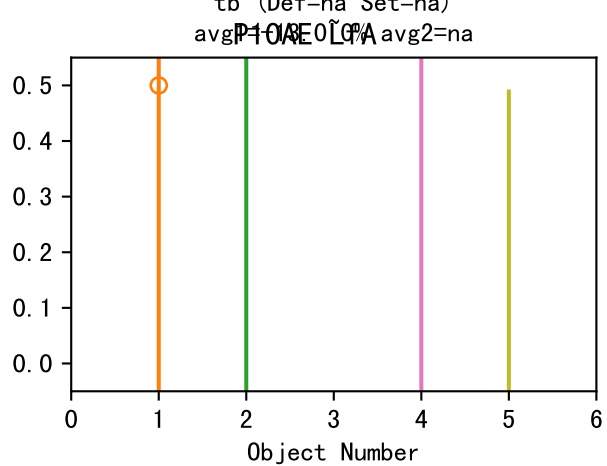

P10AE-103-32L7 (fit failed)
BetaS [1.75, 0.5, 6.34, 17.99, 0.99]
UF

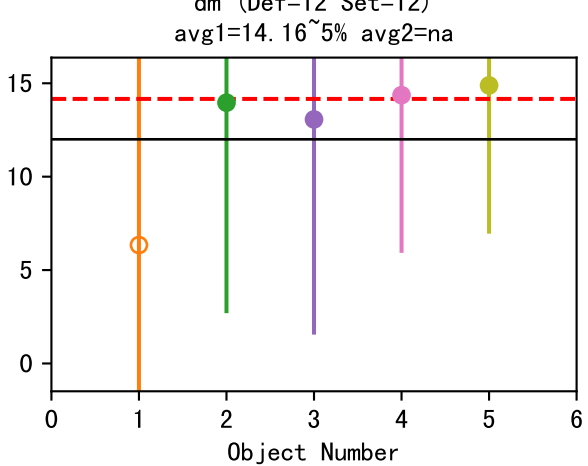

P10AE-114-7L10 (fit failed)

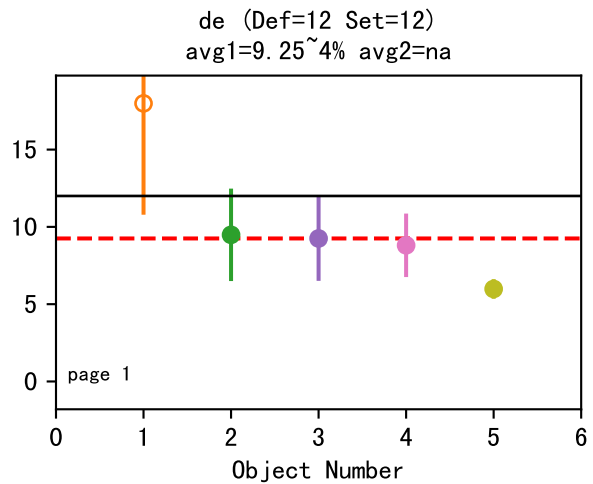

P10AE-114-7L13 (fit failed)


P10AE-114-7L7
BetaS [1.28, -13.0, 14.89, 5.98, 0.99]
UF

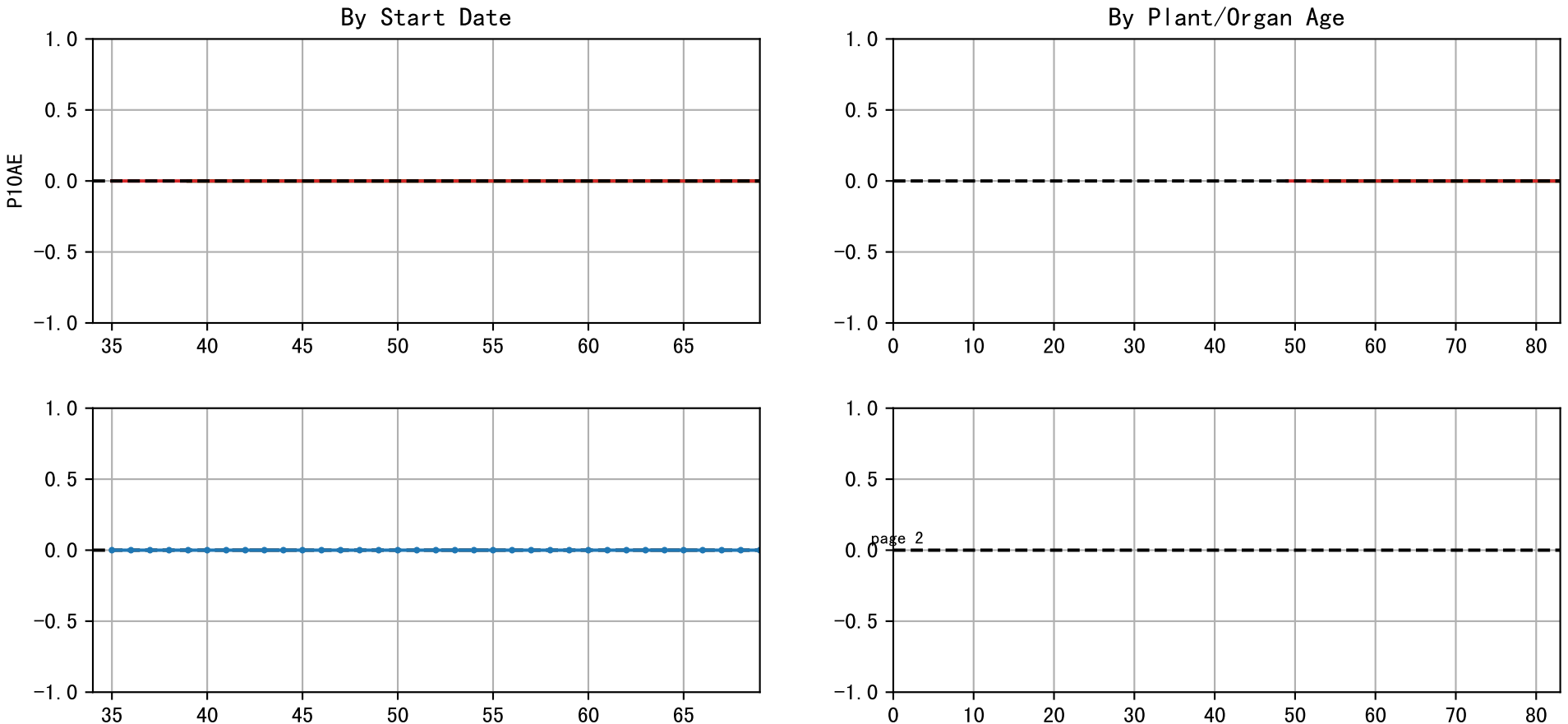

Ymax (Def=1 Set=na)
avg1=1.28~10% avg2=na
P10AE
1.5
1.0
0.5
0.0
0
1
2
3
4
5
6
Object Number

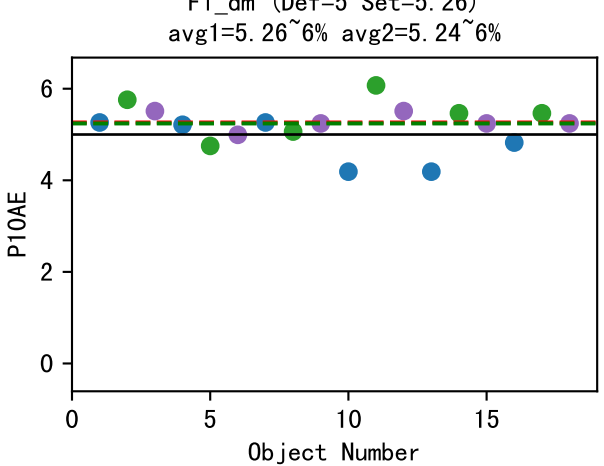

tb (Def=na Set=na)
avg1=0.0~0% avg2=na
P10AE
0.5
0.4
0.3
0.2
0.1
0.0
0
1
2
3
4
5
6
Object Number

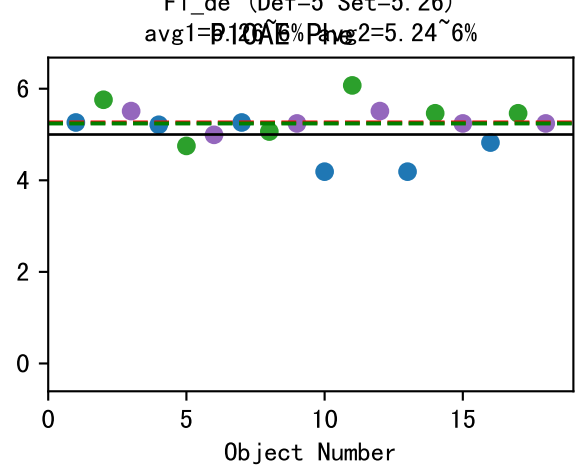

dm (Def=12 Set=12)
avg1=14.16~5% avg2=na
15
10
5
0
0
1
2
3
4
5
6
Object Number

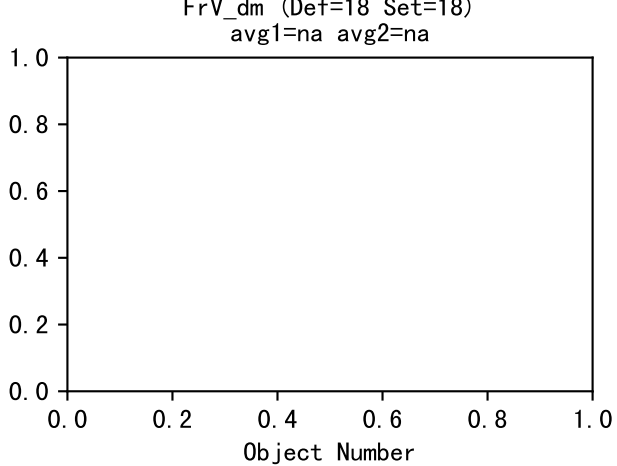

de (Def=12 Set=12)
avg1=9.25~4% avg2=na
15
10
5
0
page 1
0
1
2
3
4
5
6
Object Number

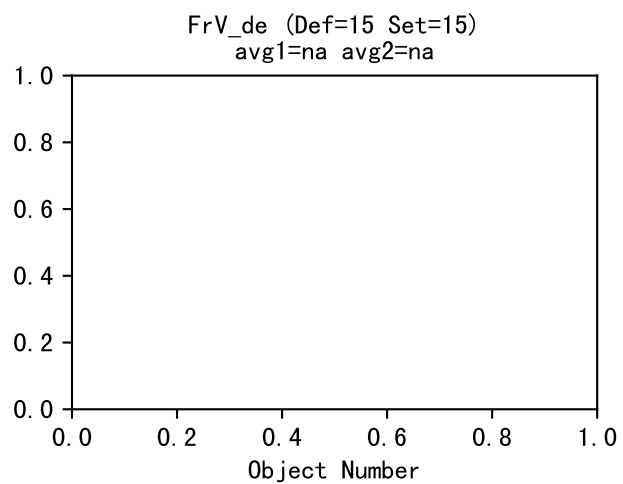
LfA

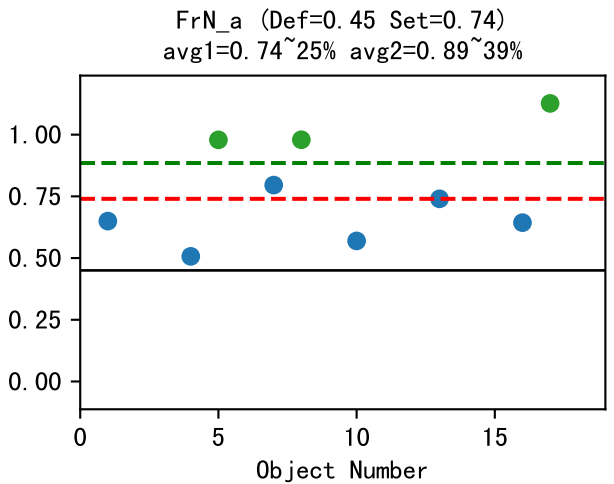

By Start Date
By Plant/Organ Age
P10AE
1.0
0.5
0.0
−0.5
−1.0
35
40
45
50
55
60
65
0
10
20
30
40
50
60
70
80
page 2

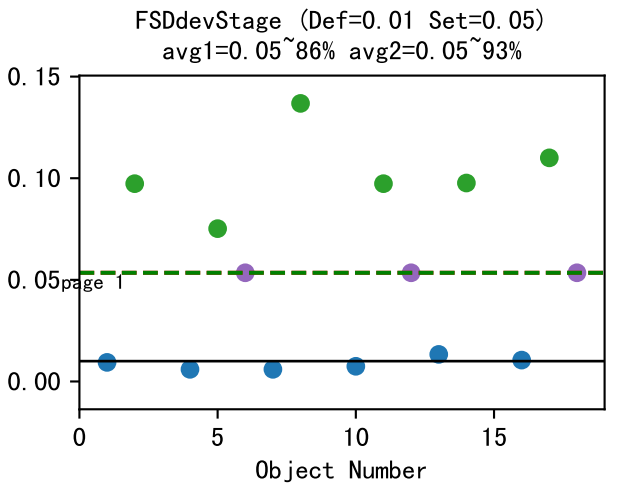

P1_dm (Def=5 Set=5.26)
avg1=5.26~6% avg2=5.24~6%
P10AE
Object Number

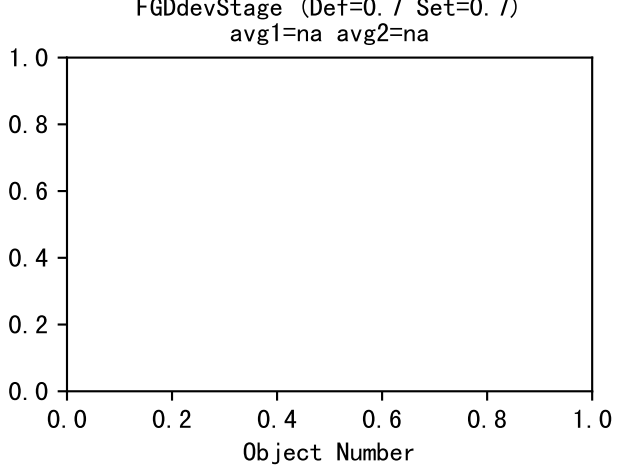

P1_de (Def=5 Set=5.26)
avg1=5.26~6% avg2=5.24~6%
Object Number

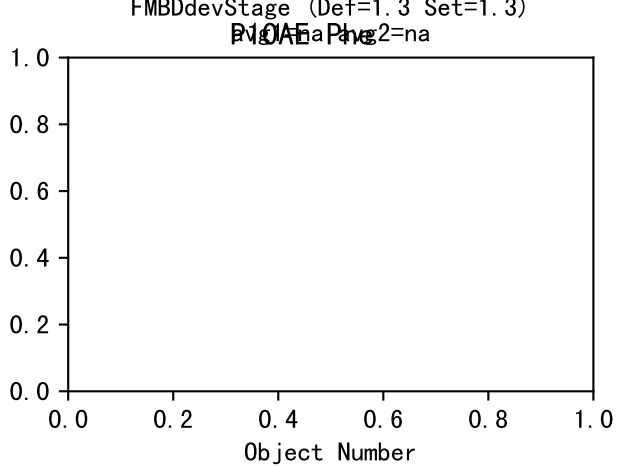

FrV_dm (Def=18 Set=18)
avg1=na avg2=na
Object Number

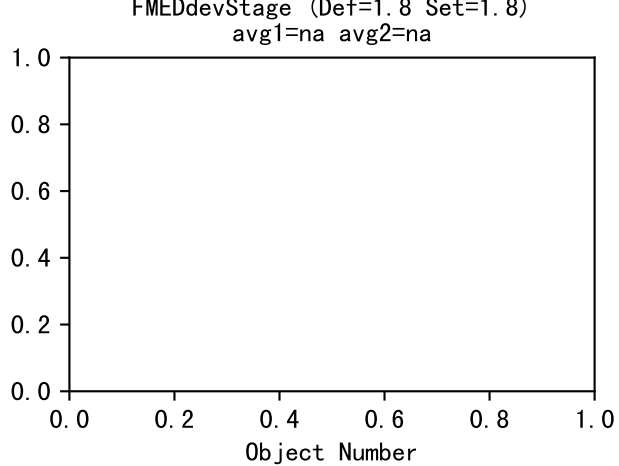

FrV_de (Def=15 Set=15)
avg1=na avg2=na
Object Number

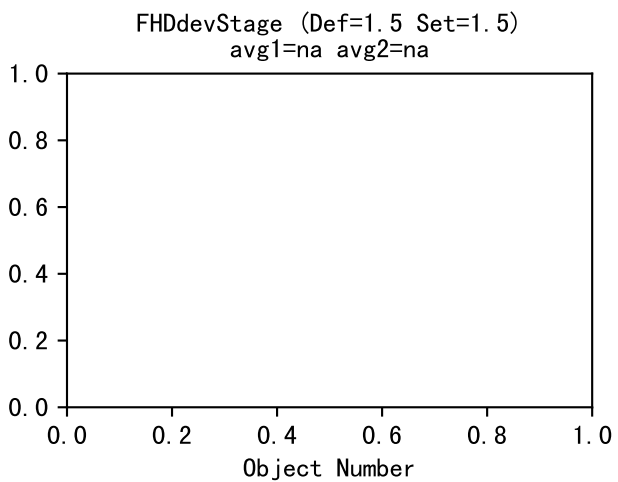

FrN_a (Def=0.45 Set=0.74)
avg1=0.74~25% avg2=0.89~39%
Object Number

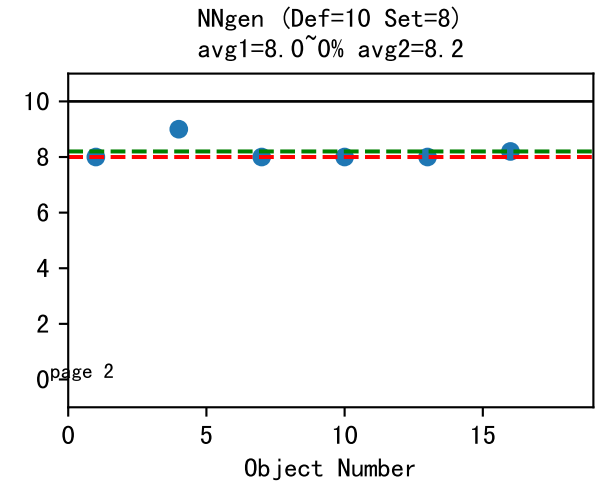

FSDdevStage (Def=0.01 Set=0.05)
avg1=0.05~86% avg2=0.05~93%
Object Number

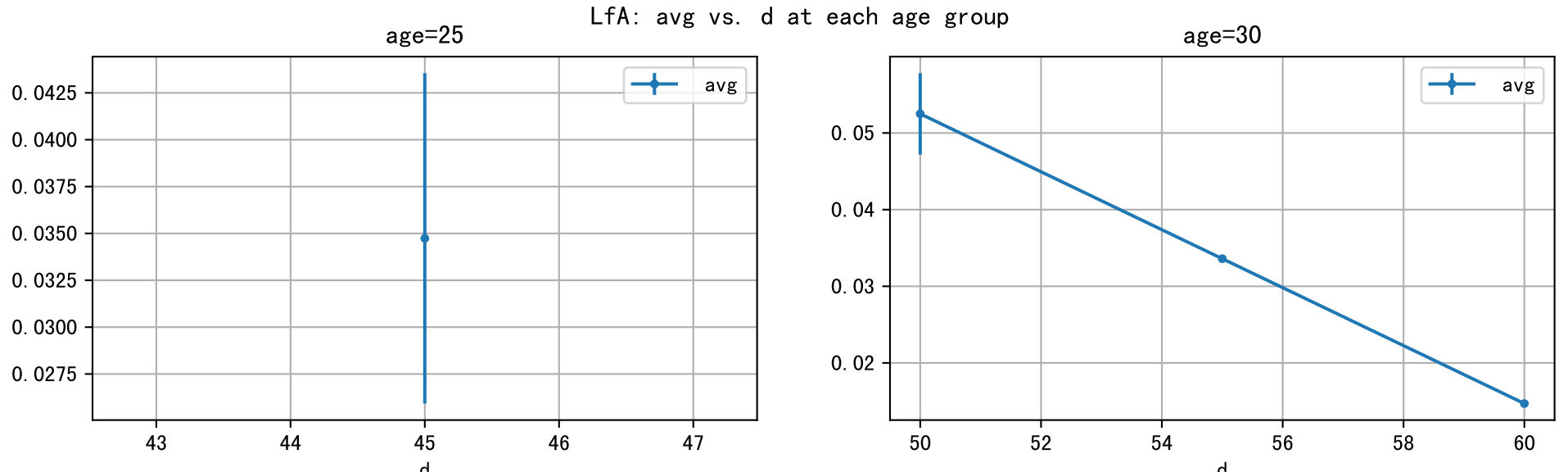

FGDdevStage (Def=0.7 Set=0.7)
avg1=na avg2=na
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Object Number

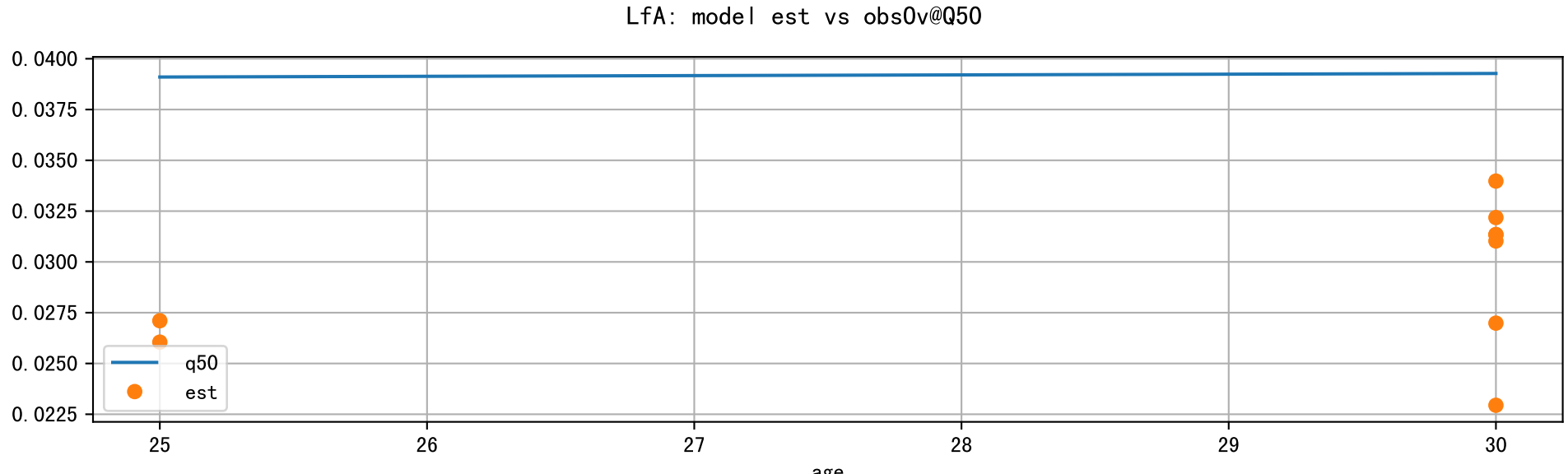

FMBDdevStage (Def=1.3 Set=1.3)
avg1=na avg2=na
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Object Number

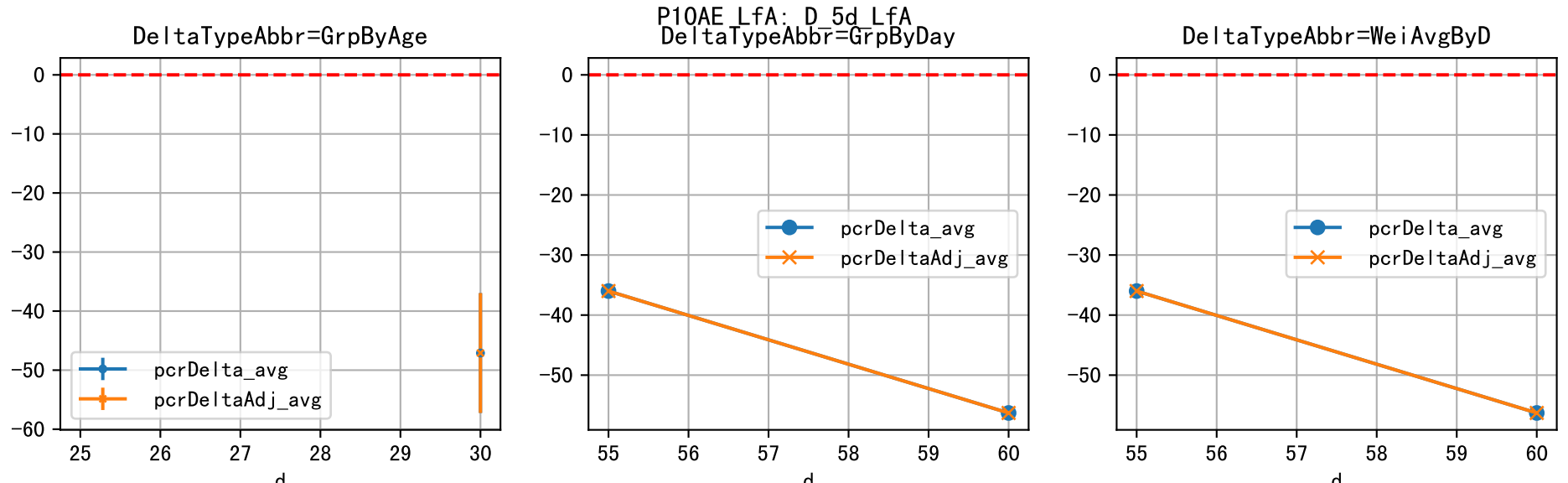

FMEDdevStage (Def=1.8 Set=1.8)
avg1=na avg2=na
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Object Number

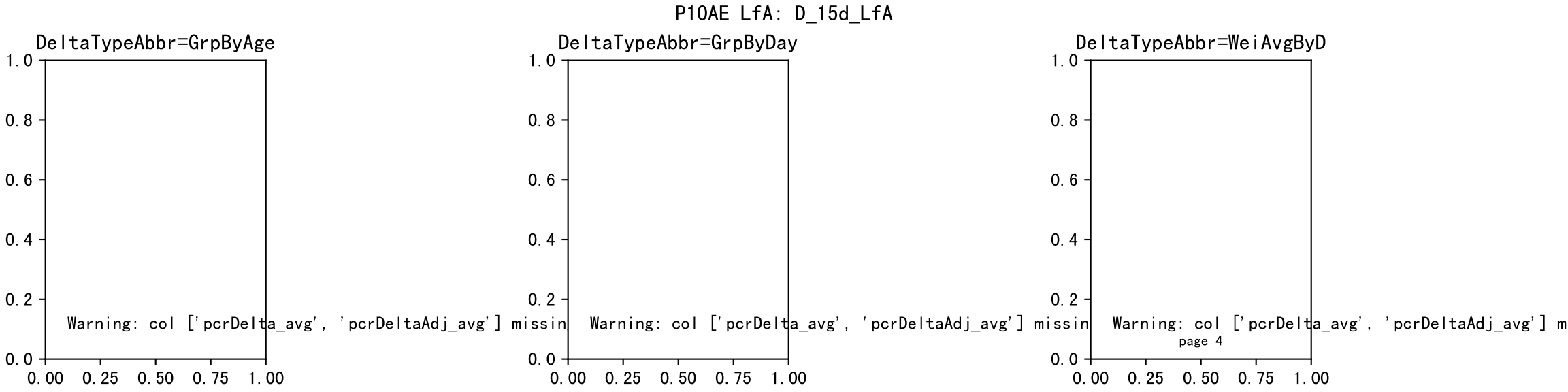

FHDdevStage (Def=1.5 Set=1.5)
avg1=na avg2=na
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Object Number


NNgen (Def=10 Set=8)
avg1=8.0~0% avg2=8.2
10
8
6
4
2
0
page 2
0
5
10
15
Object Number

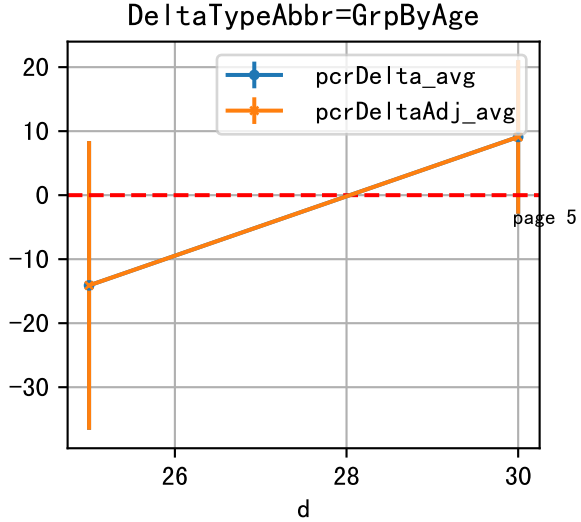

LfA: avg vs. d at each age group
age=25
avg
0.0425
0.0400
0.0375
0.0350
0.0325
0.0300
0.0275
43
44
45
46
47
d
age=30
avg
0.05
0.04
0.03
0.02
50
52
54
56
58
60
d


LfA: model est vs obsOv@Q50
0.0400
0.0375
0.0350
0.0325
0.0300
0.0275
0.0250
0.0225
q50
est
25
26
27
28
29
30
age

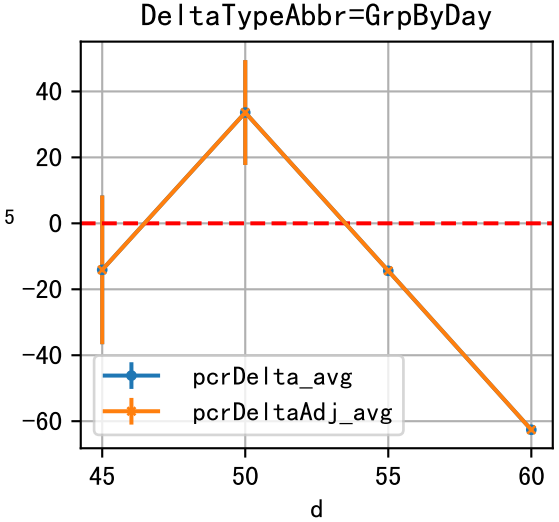

P10AE_LfA: D_5d_LfA
DeltaTypeAbbr=GrpByAge
DeltaTypeAbbr=GrpByDay
DeltaTypeAbbr=WeiAvgByD
pcrDelta_avg
pcrDeltaAdj_avg
d

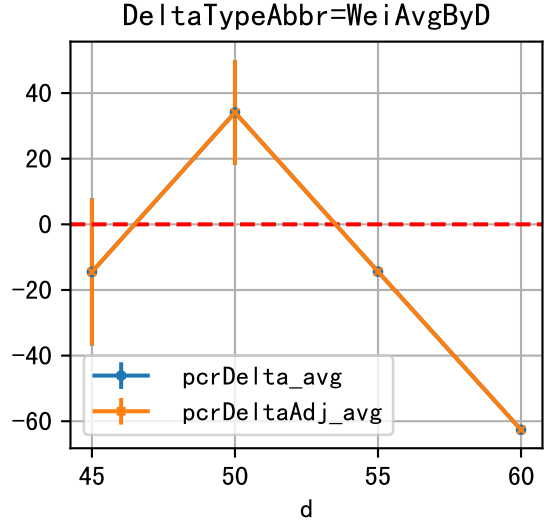

P10AE LfA: D_15d_LfA
DeltaTypeAbbr=GrpByAge
DeltaTypeAbbr=GrpByDay
DeltaTypeAbbr=WeiAvgByD
1.0
0.8
0.6
0.4
0.2
0.0
0.00
0.25
0.50
0.75
1.00
Warning: col ['pcrDelta_avg', 'pcrDeltaAdj_avg'] missin
Warning: col ['pcrDelta_avg', 'pcrDeltaAdj_avg'] missin
Warning: col ['pcrDelta_avg', 'pcrDeltaAdj_avg'] m

P10AE LfA: D_Q50_LfA

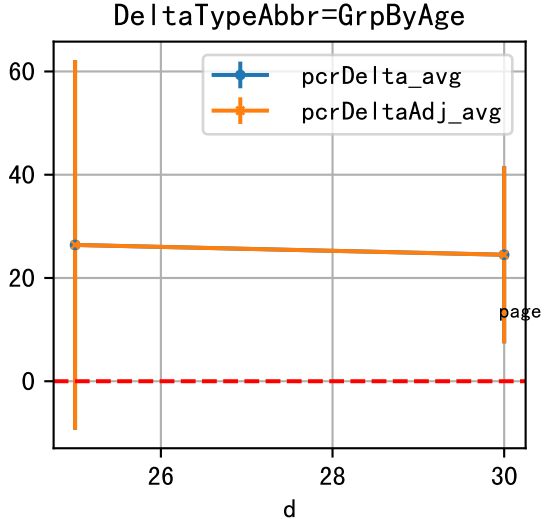


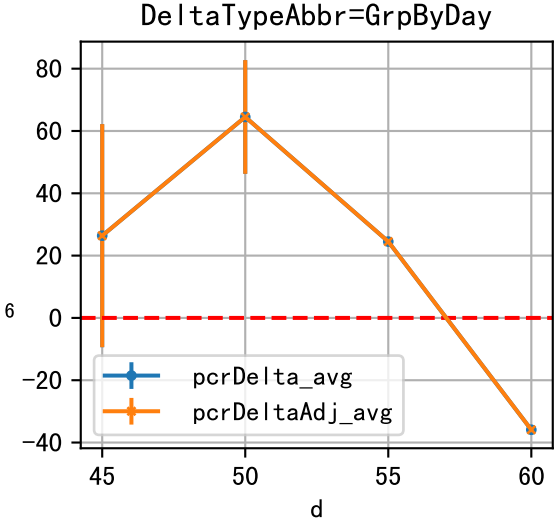
page 5

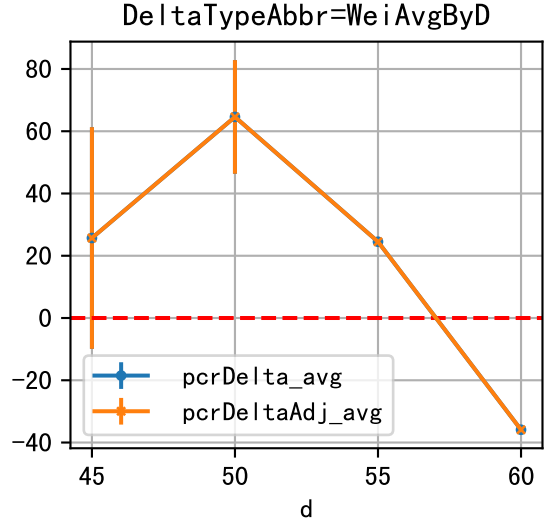


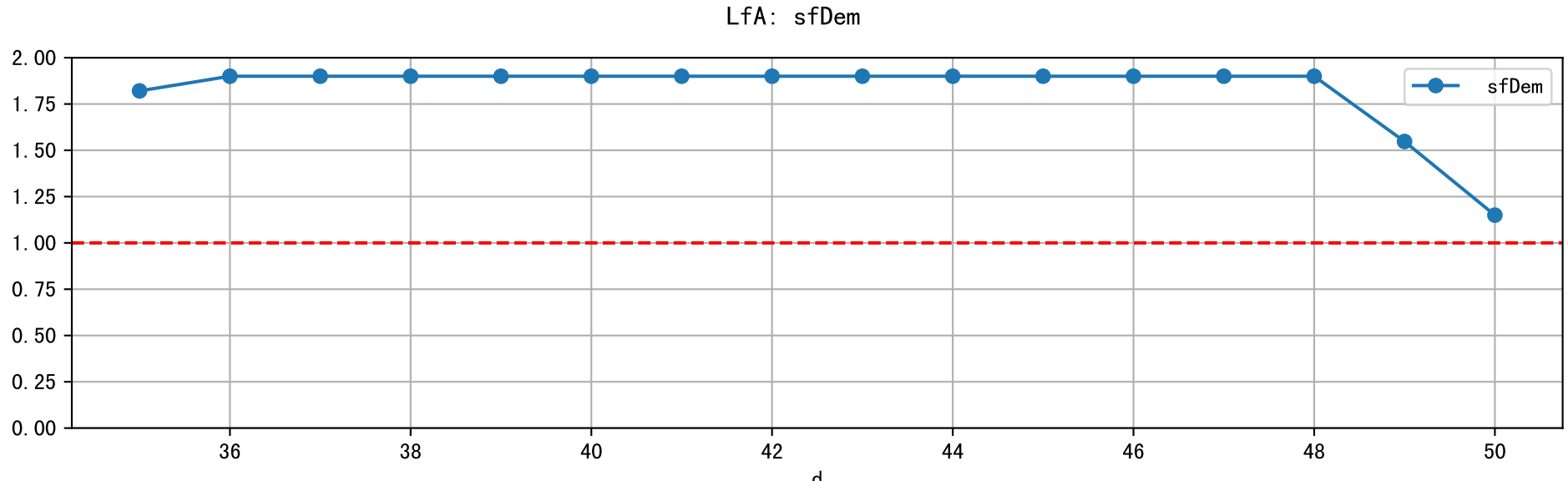


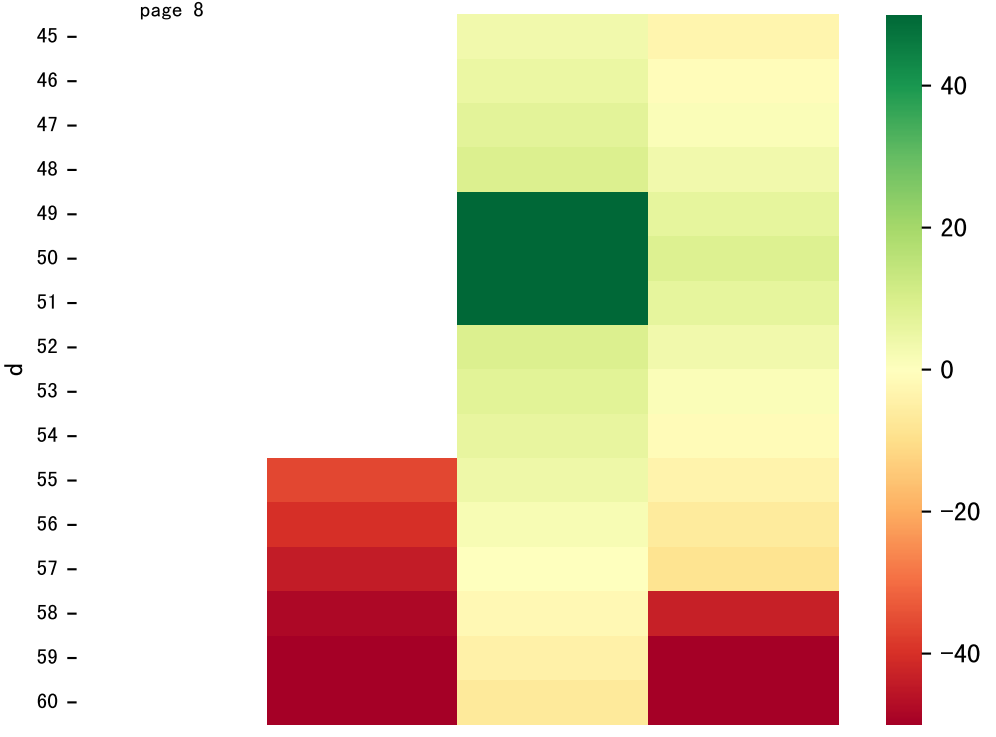
P10AE LfA: D_Est_LfA

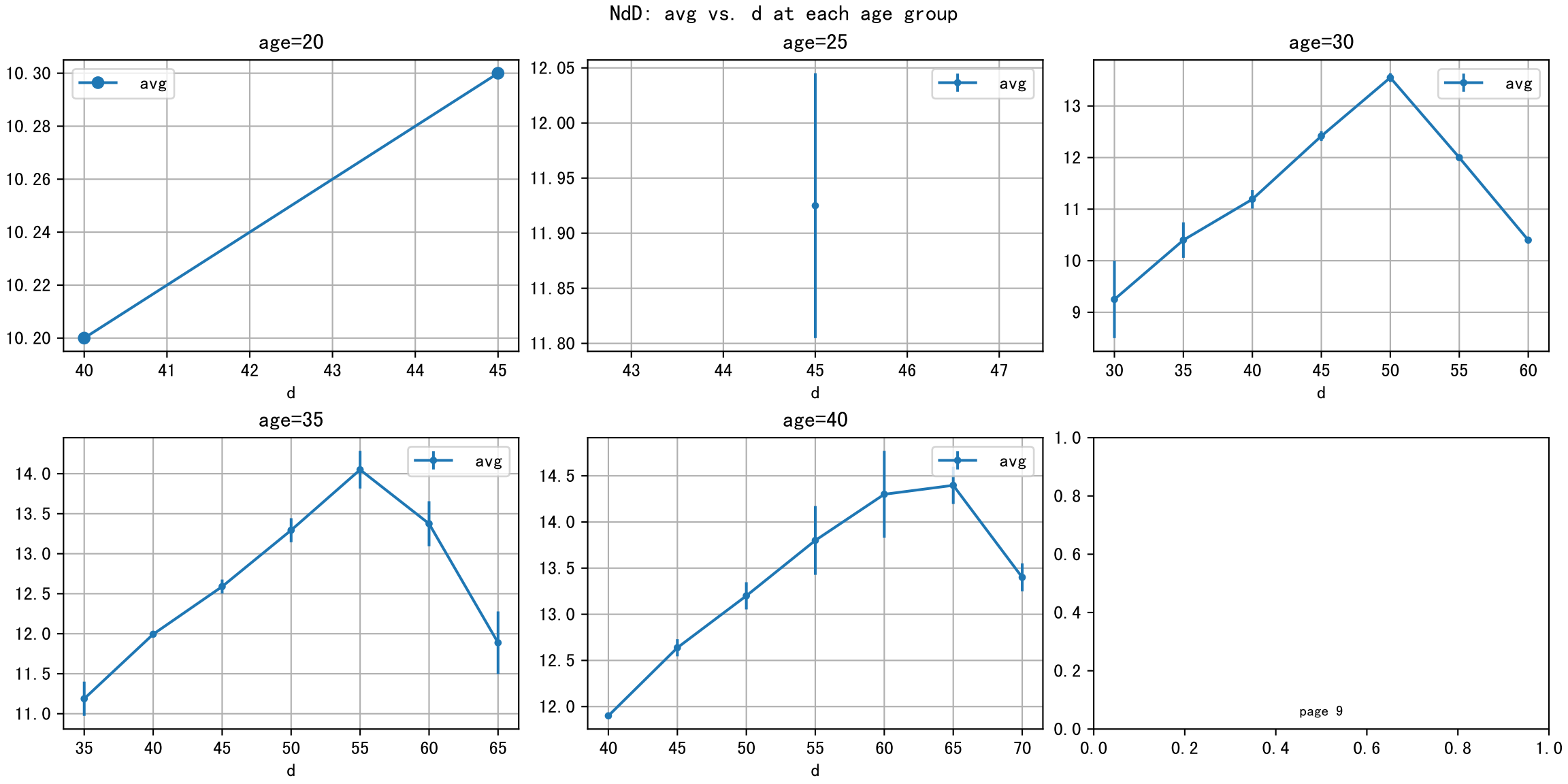


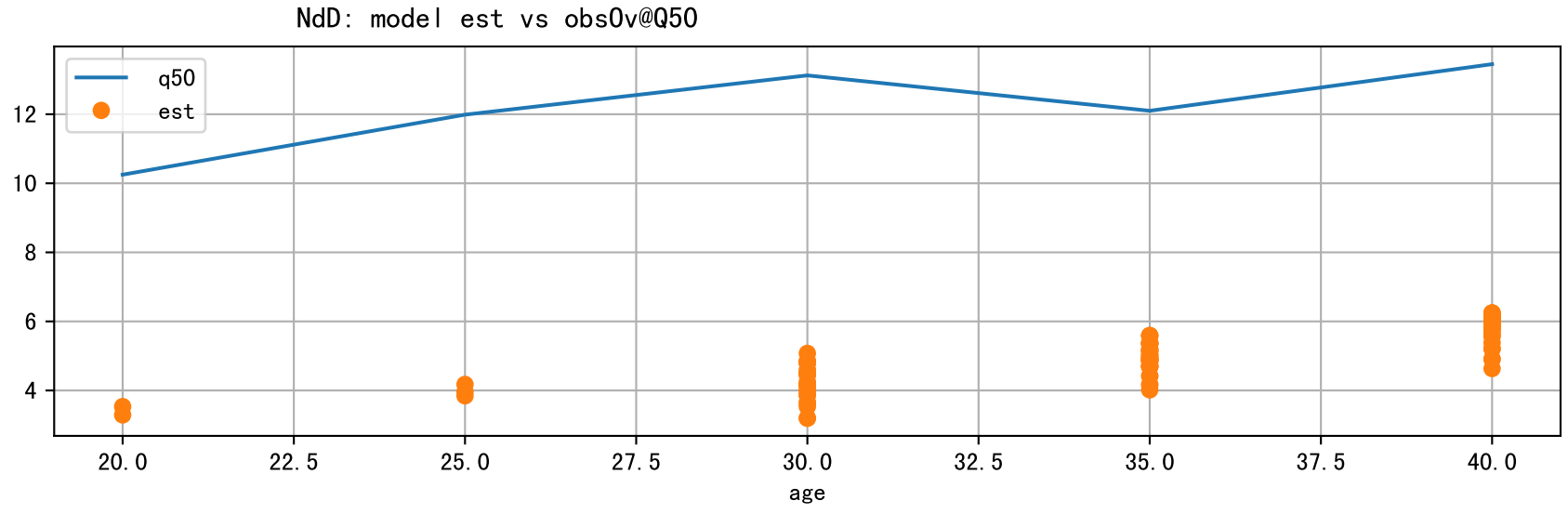




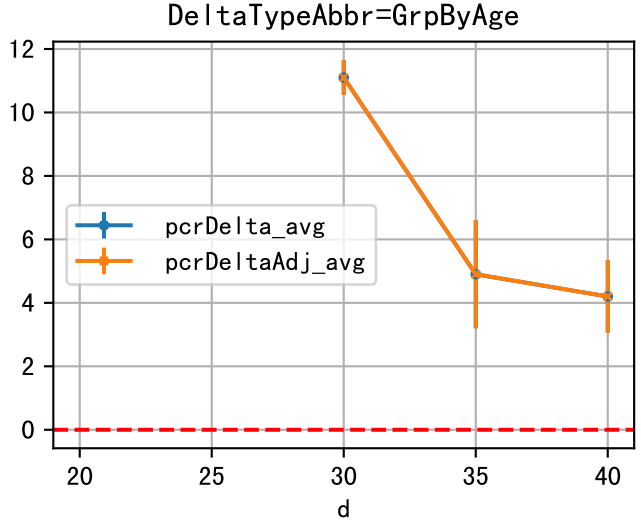

LfA: sfDem
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
36
38
40
42
44
46
48
50
d
sfDem

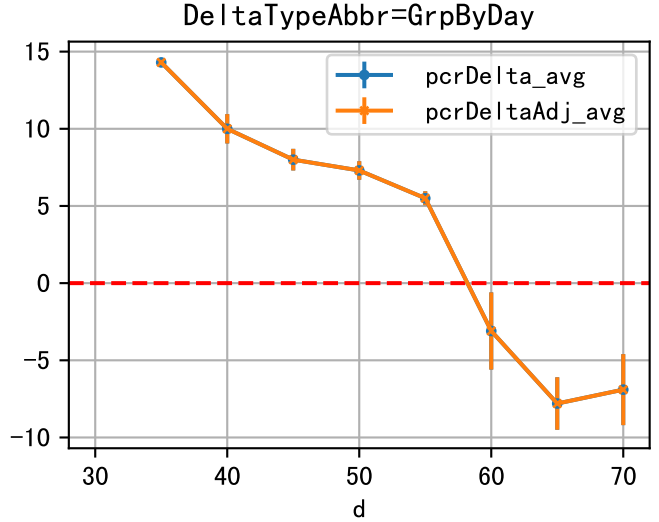

d
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
40
20
0
−20
−40

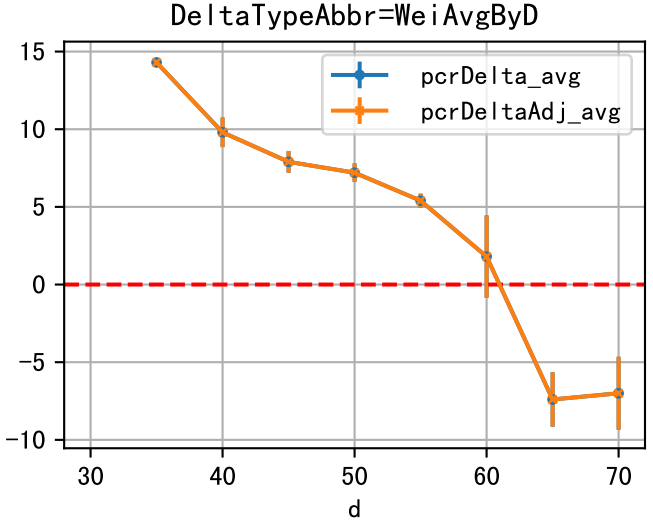

NdD: avg vs. d at each age group
age=20
avg
d
age=25
avg
d
age=30
avg
d
age=35
avg
d
age=40
avg
d
page 9


NdD: model est vs obsOv@Q50
q50
est
12
10
8
6
4
20.0
22.5
25.0
27.5
30.0
32.5
35.0
37.5
40.0
age

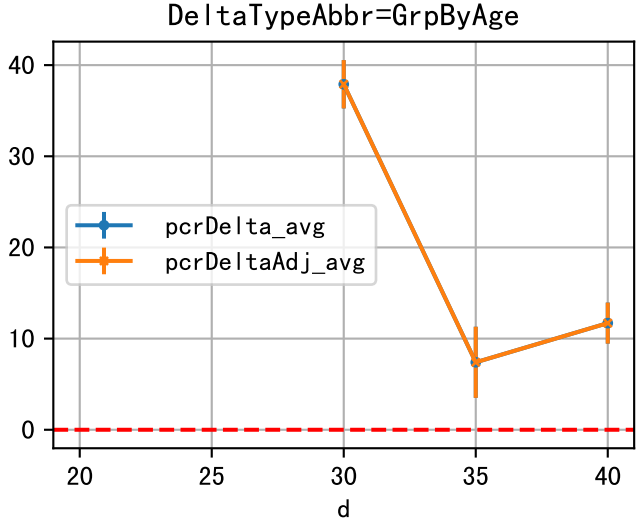
P10AE NdD: D_5d_NdD

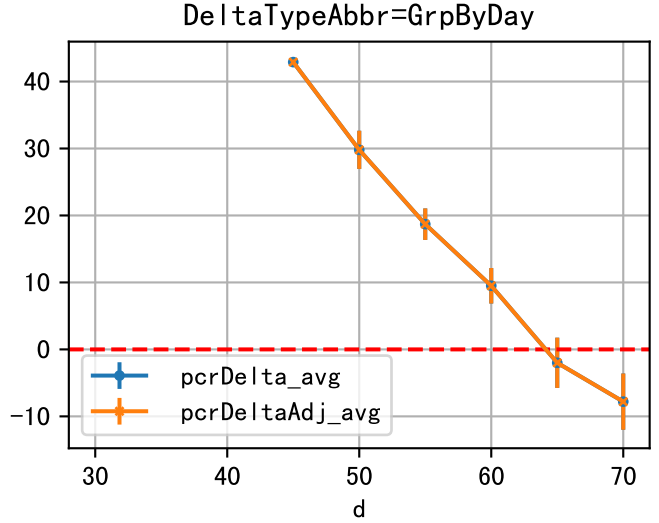


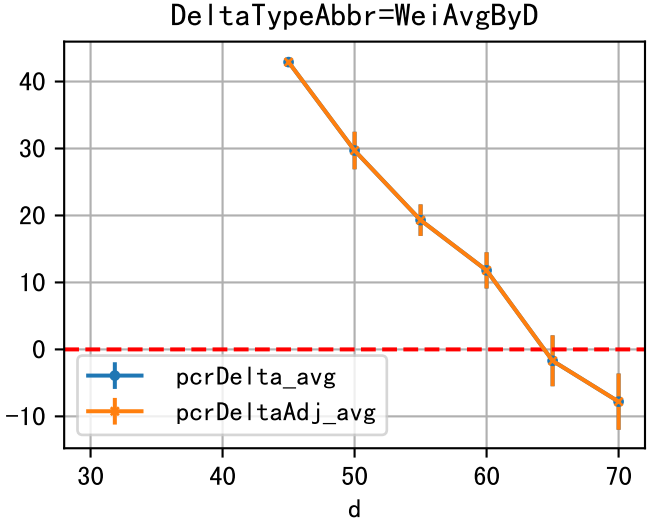




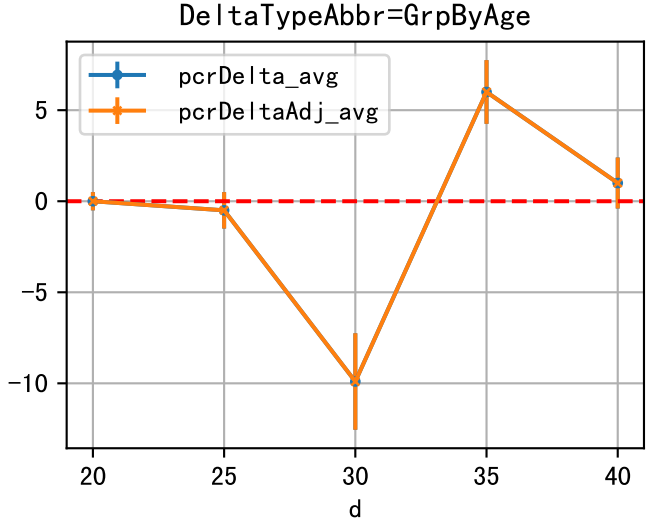
P10AE NdD: D_15d_NdD

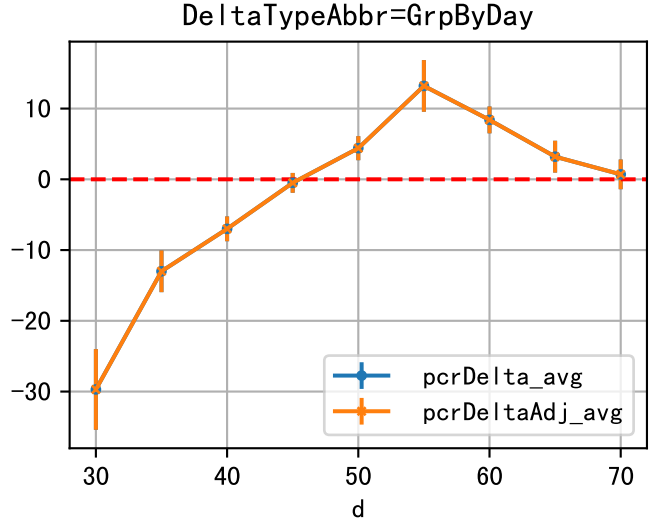


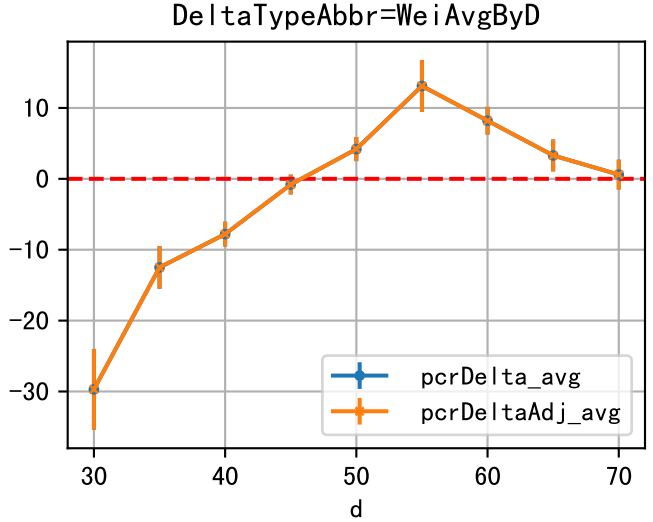


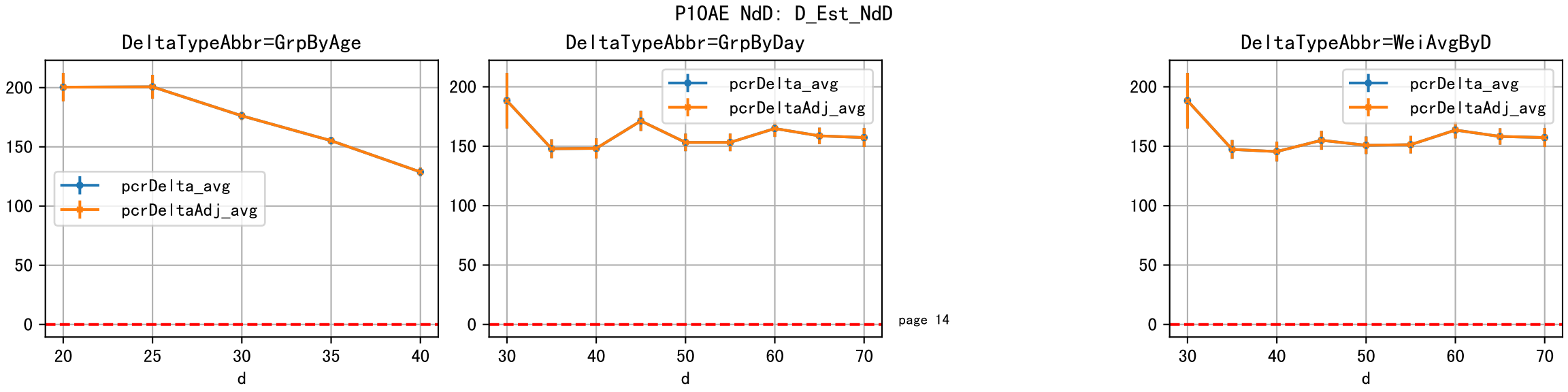


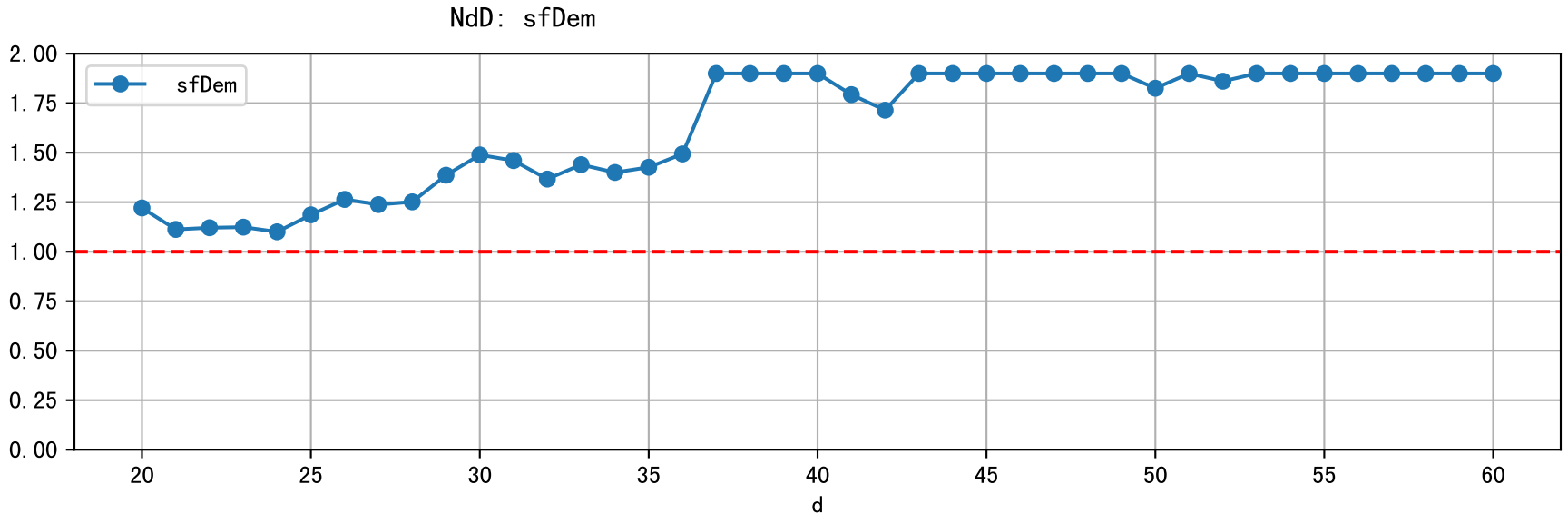
P10AE NdD: D_Q50_NdD



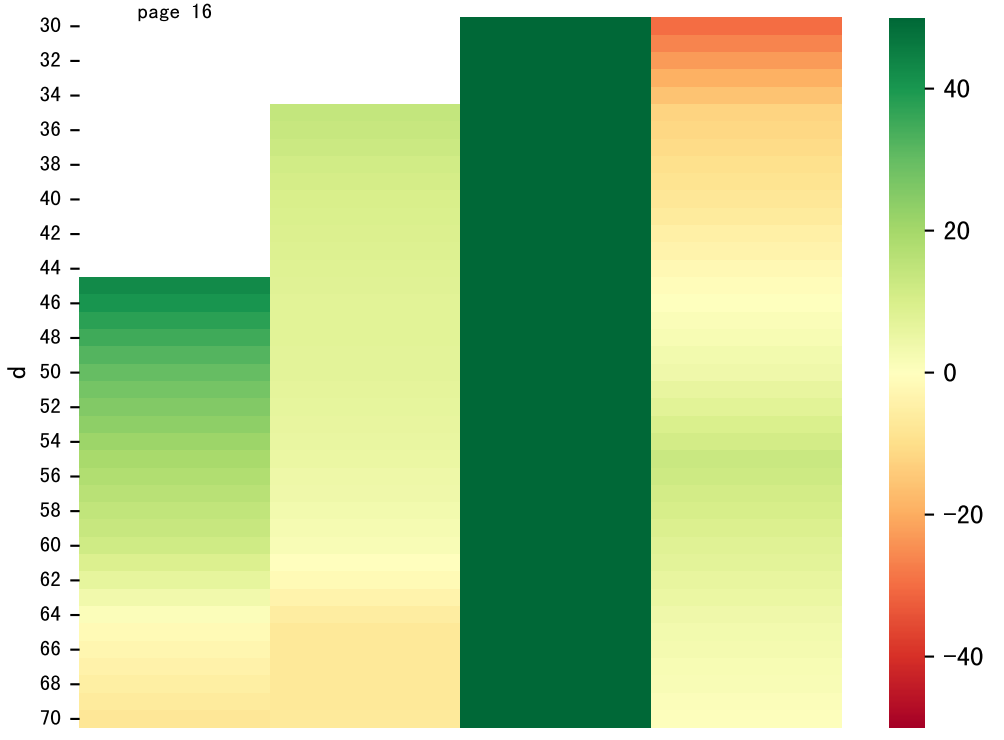


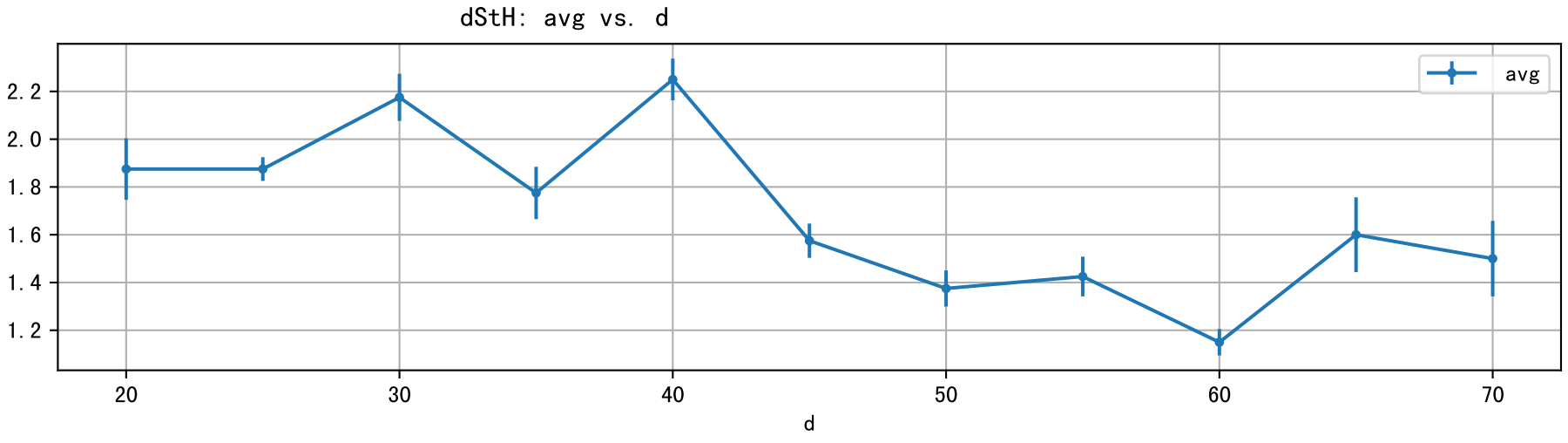


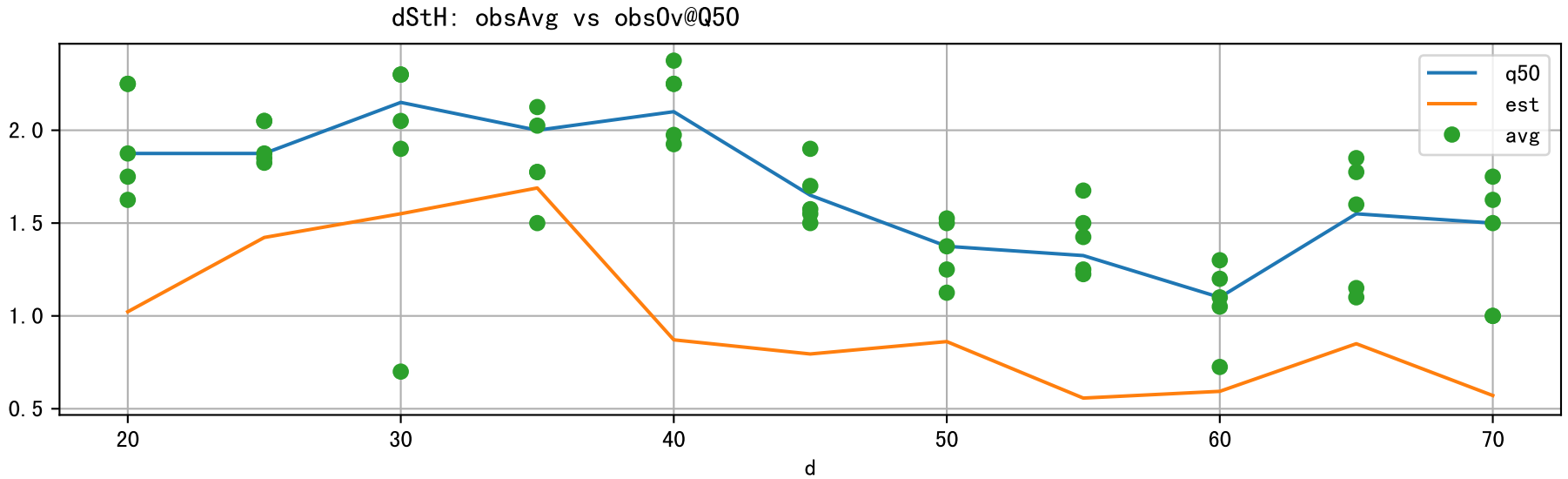

P10AE NdD: D_Est_NdD
DeltaTypeAbbr=GrpByAge
DeltaTypeAbbr=GrpByDay
DeltaTypeAbbr=WeiAvgByD
pcrDelta_avg
pcrDeltaAdj_avg
200
150
100
50
0
20
25
30
35
40
50
60
70
d

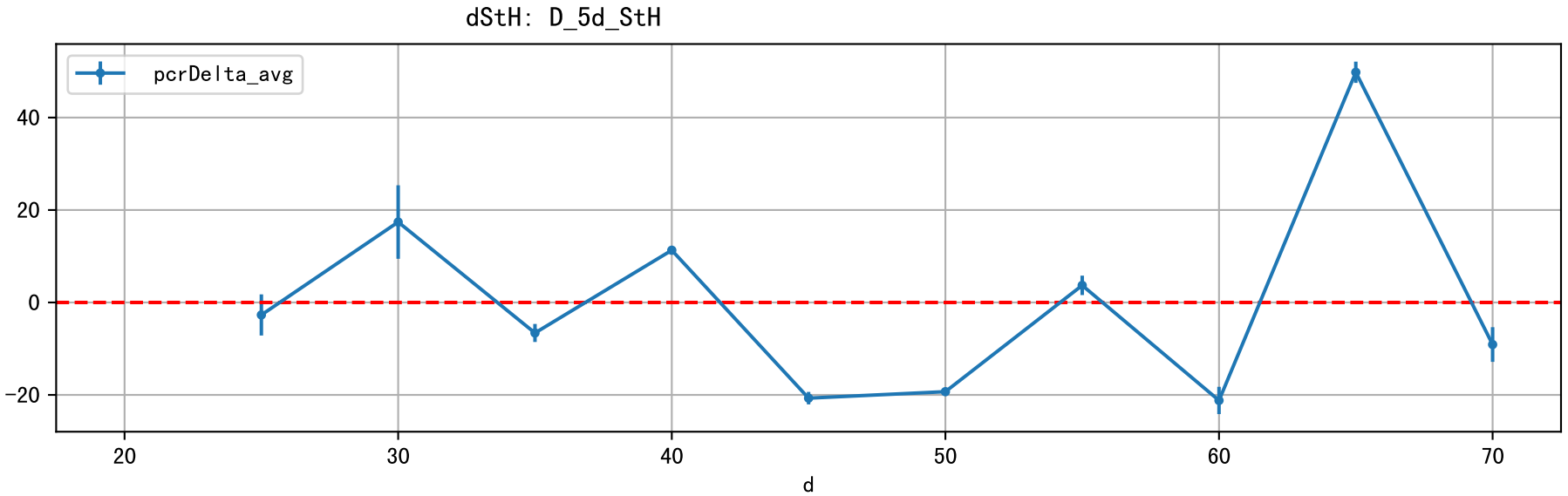

NdD: sfDem
sfDem
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
20
25
30
35
40
45
50
55
60
d

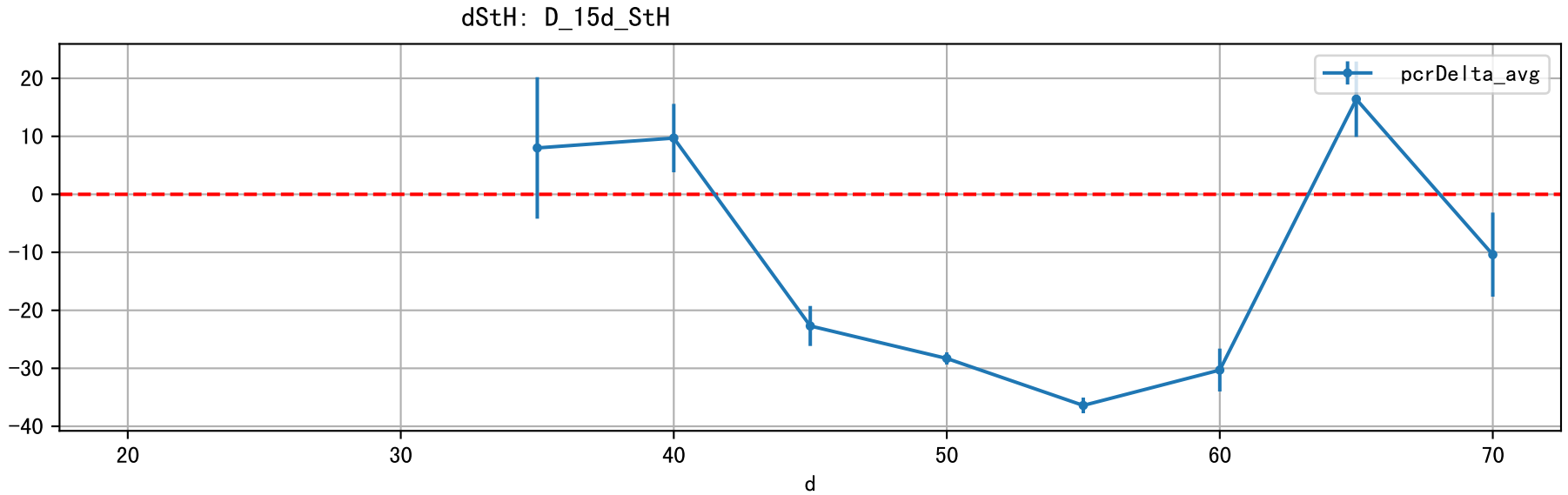
e 15

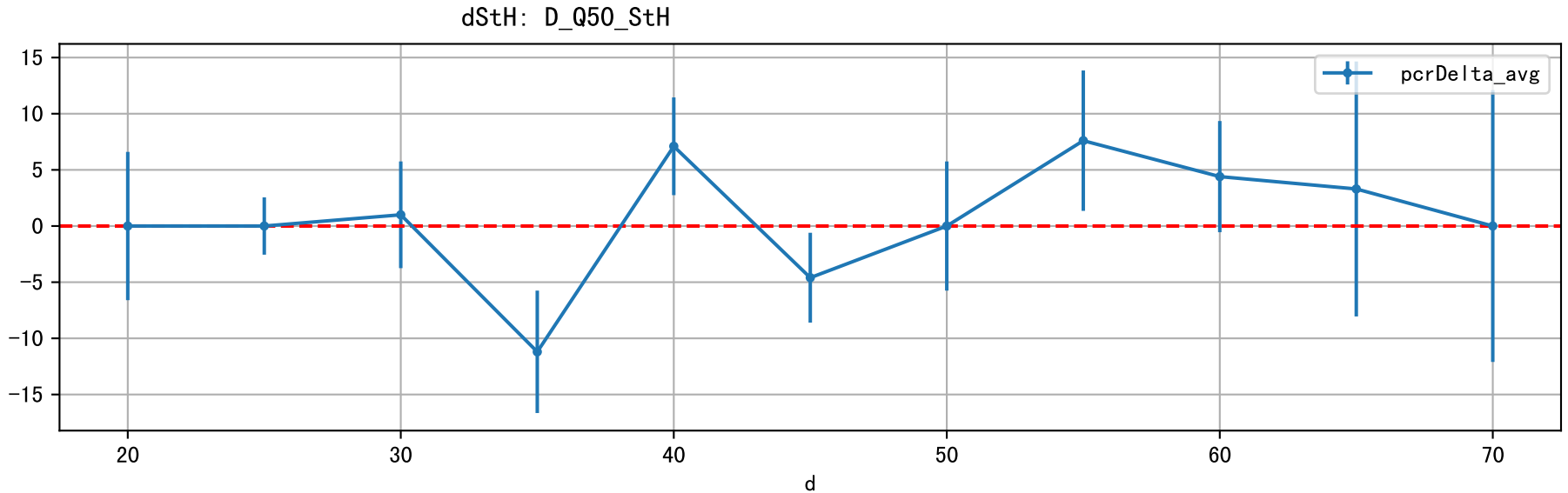

page 16
d
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
40
20
0
−20
−40

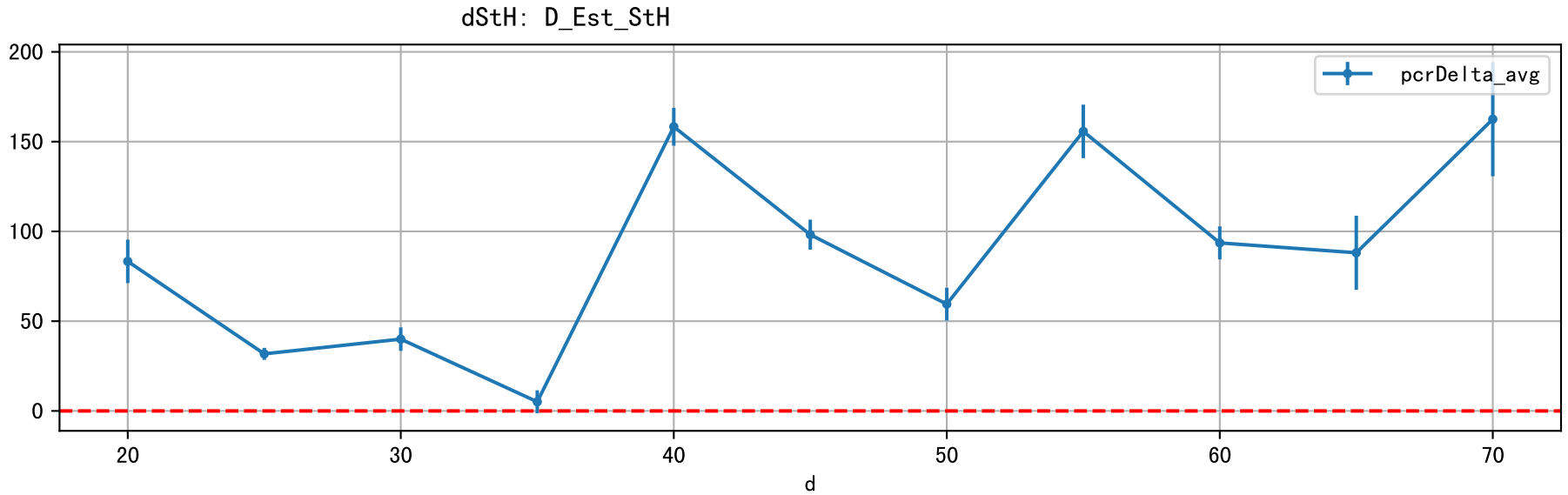

dStH: avg vs. d
avg
2.2
2.0
1.8
1.6
1.4
1.2
20
30
40
50
60
70
d

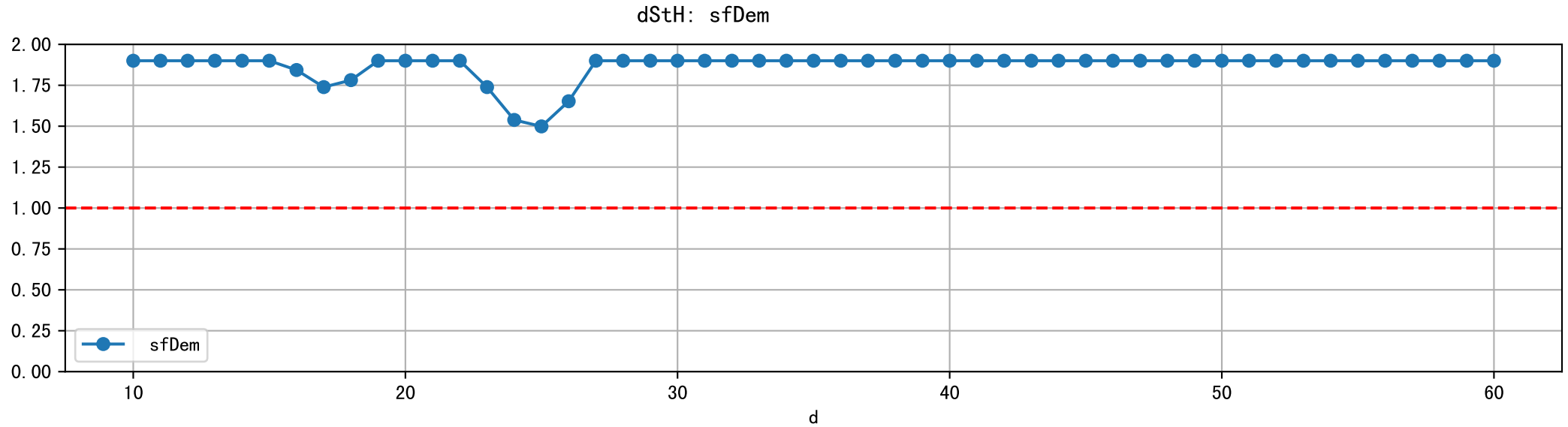

dStH: obsAvg vs obsOv@Q50
q50
est
avg
2.0
1.5
1.0
0.5
20
30
40
50
60
70
d

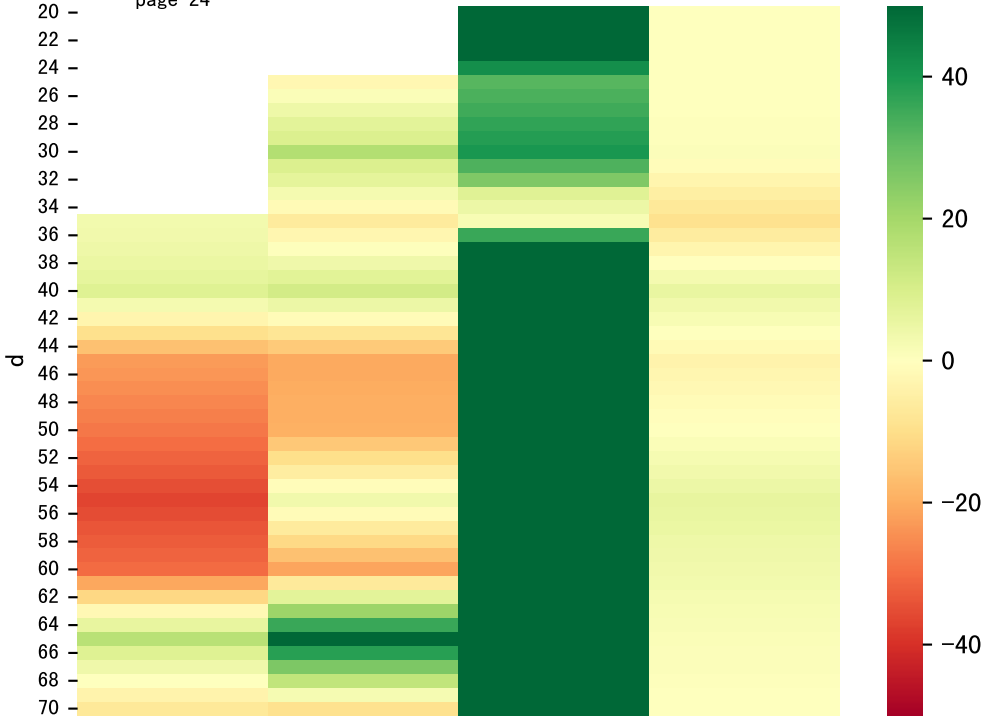

dStH: D_5d_StH
pcrDelta_avg
40
20
0
−20
20
30
40
50
60
70
d

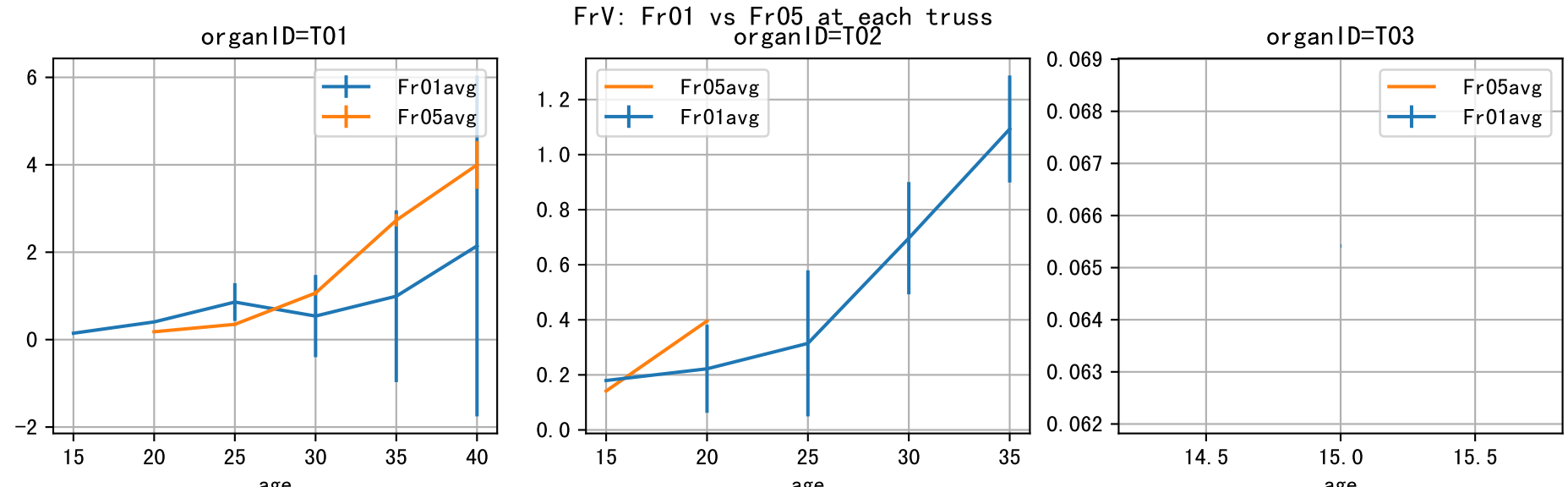

dStH: D_15d_StH
pcrDelta_avg
20
10
0
−10
−20
−30
−40
20
30
40
50
60
70
d

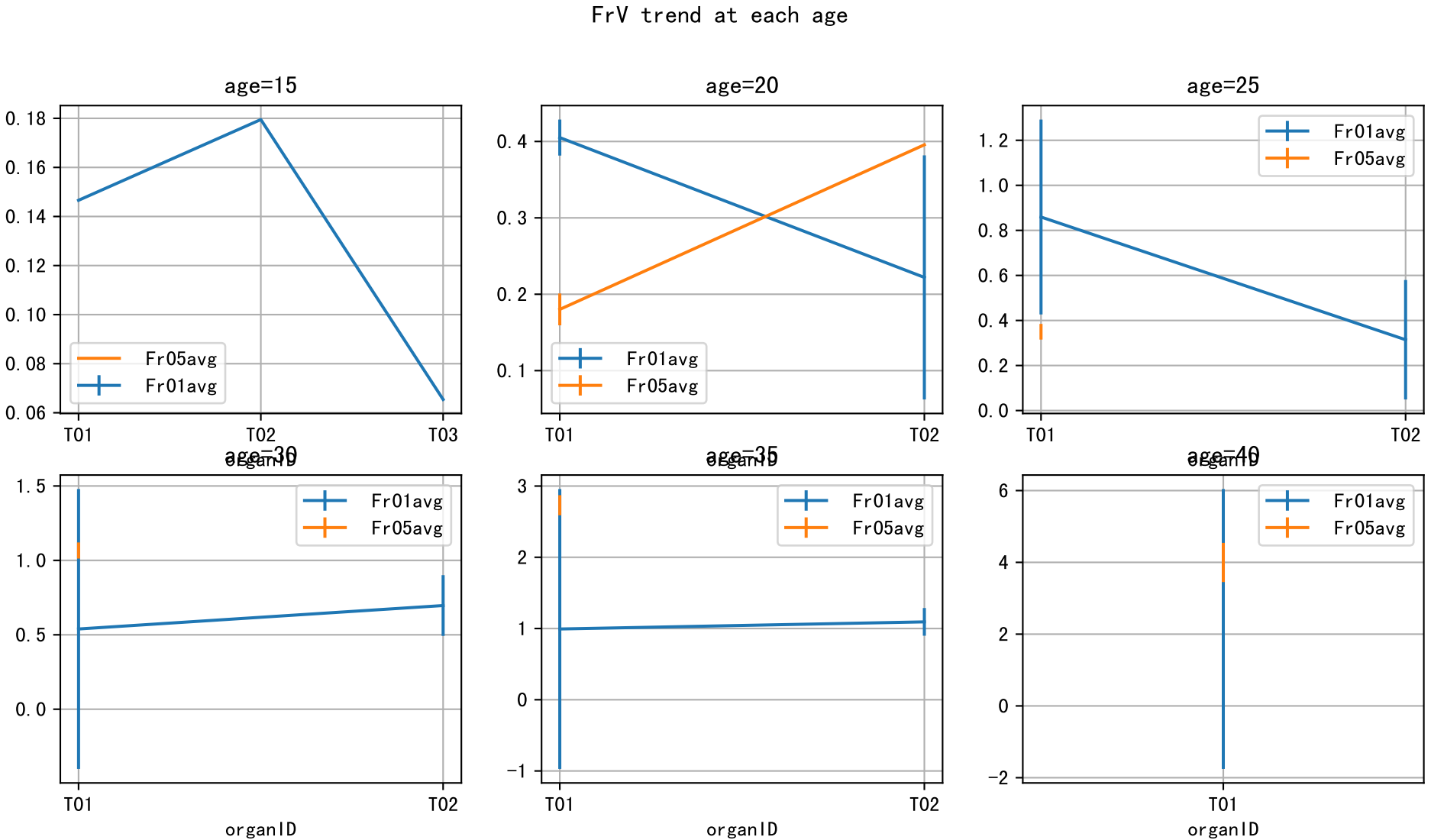

dStH: D_Q50_StH
pcrDelta_avg
15
10
5
0
−5
−10
−15
20
30
40
50
60
70
d

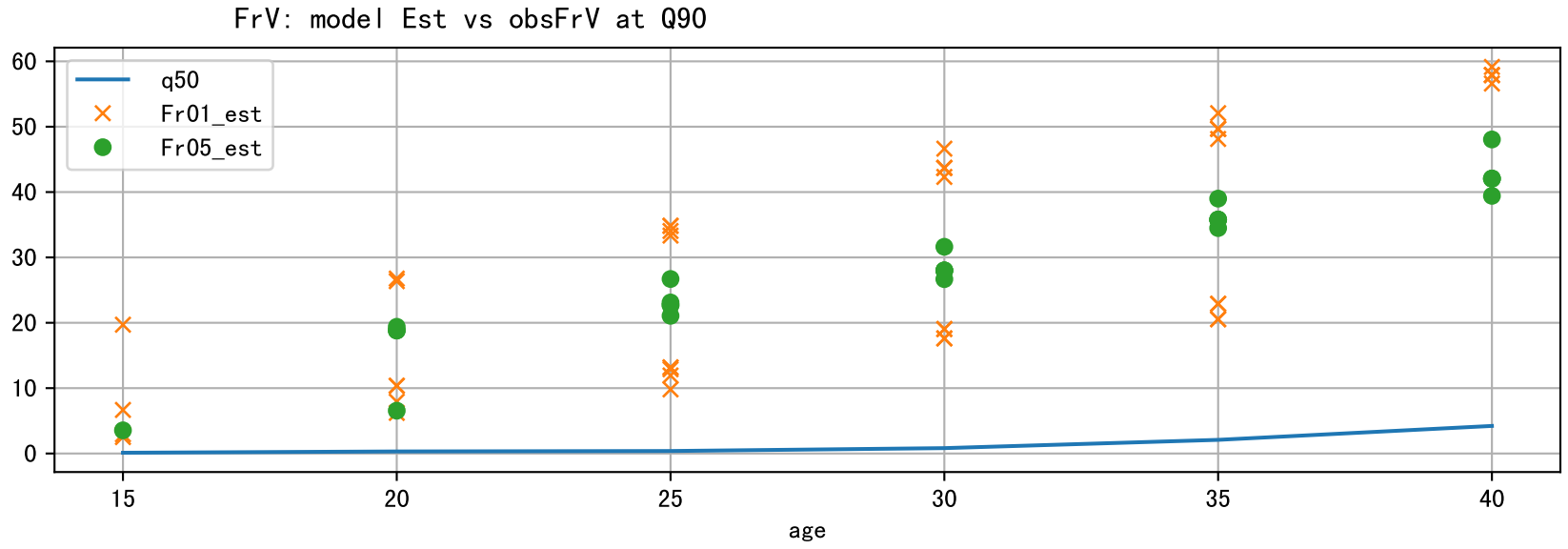

dStH: D_Est_StH
pcrDelta_avg
200
150
100
50
0
20
30
40
50
60
70
d

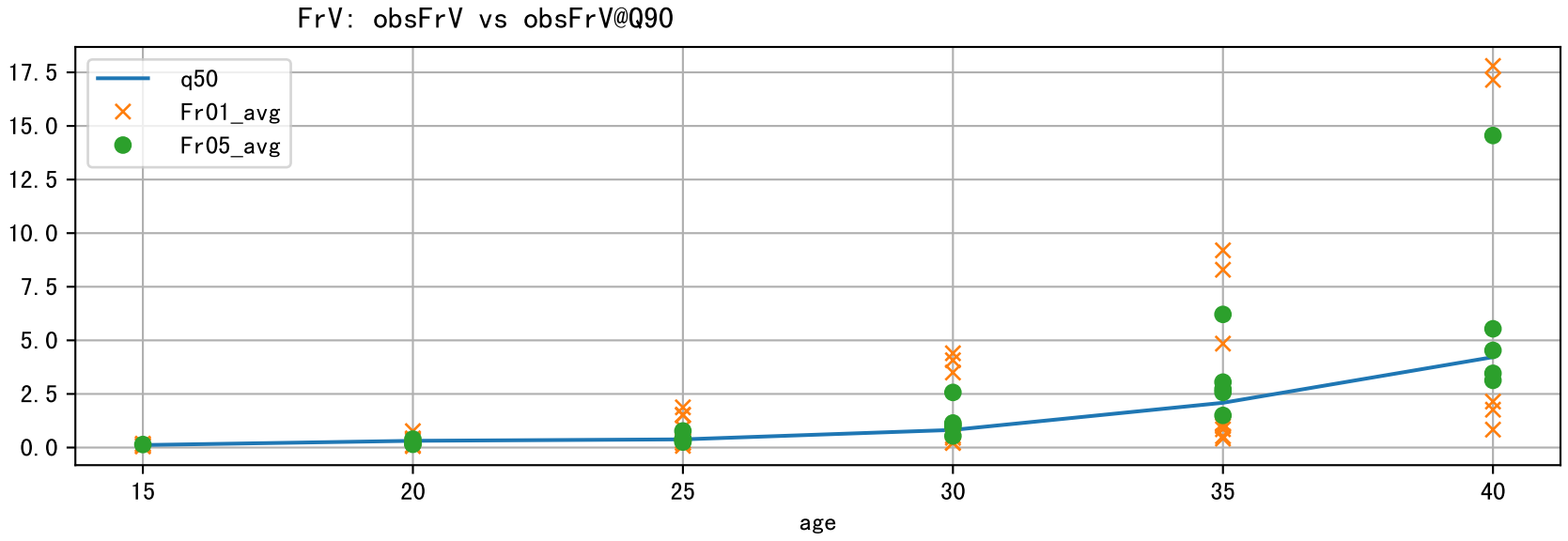

dStH: sfDem
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
sfDem
10
20
30
40
50
60
d

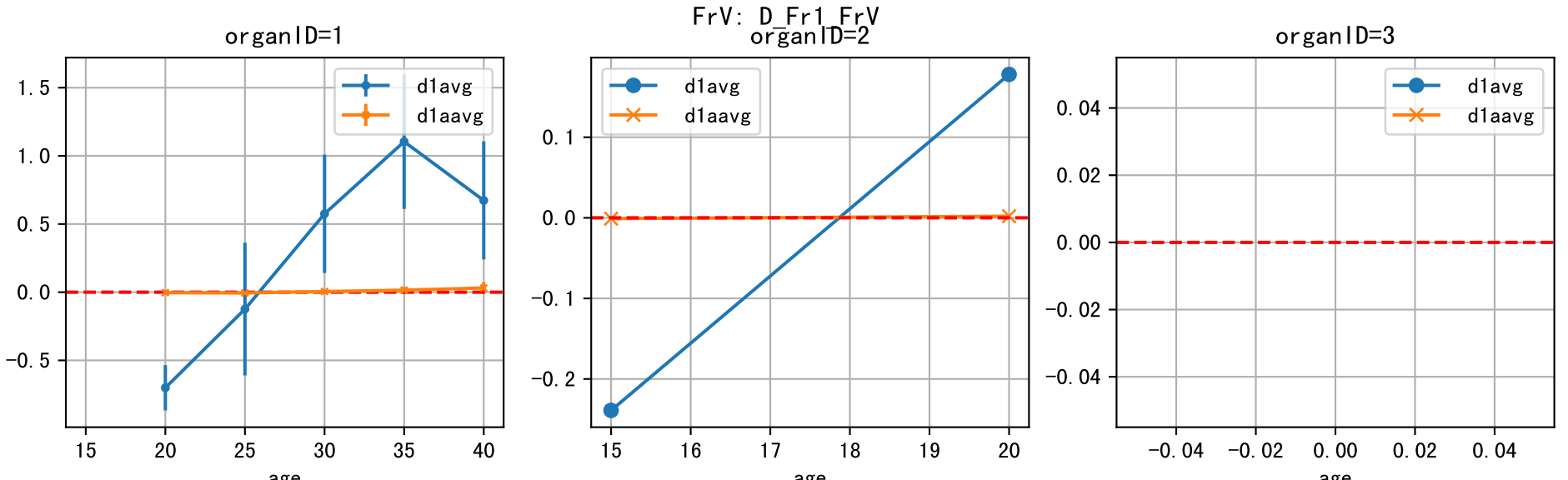

d
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
40
20
0
−20
−40

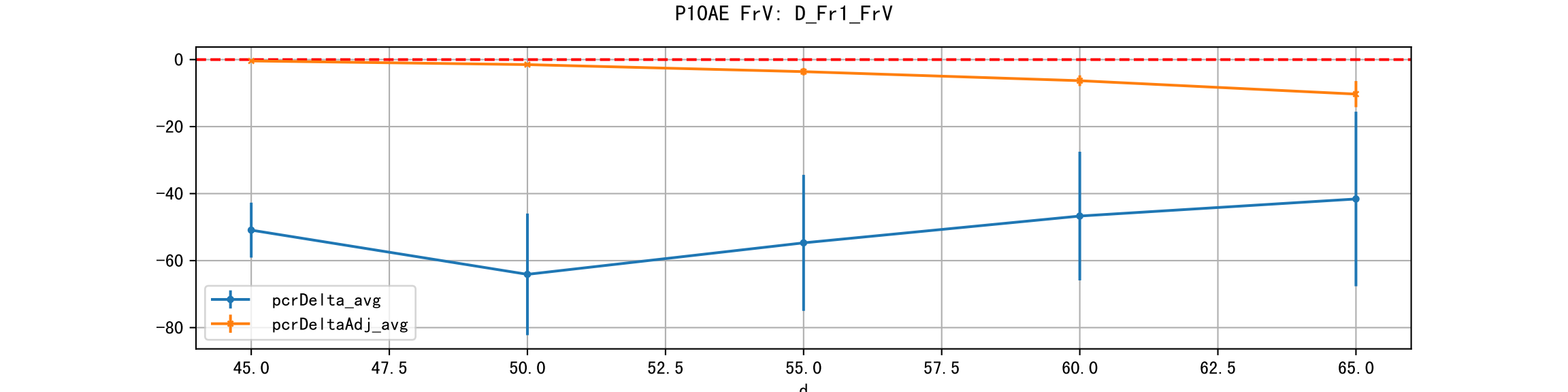

FrV: Fr01 vs Fr05 at each truss
organID=T01
organID=T02
organID=T03
Fr01avg
Fr05avg
age

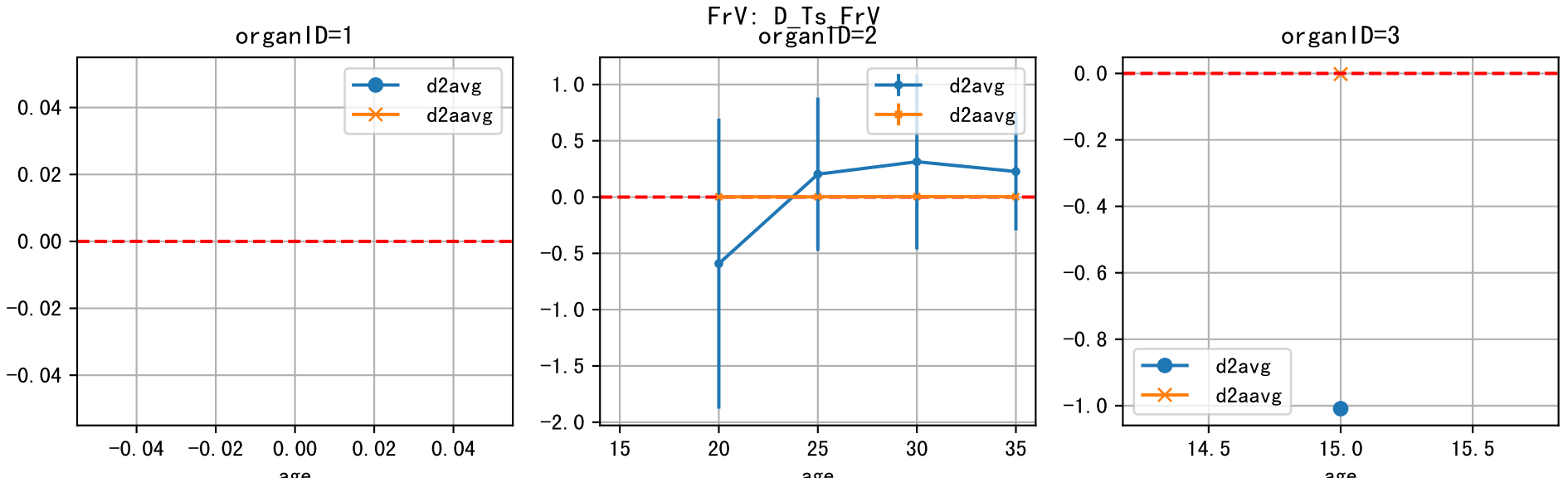

FrV trend at each age
age=15
0.18
0.16
0.14
0.12
0.10
0.08
0.06
Fr05avg
Fr01avg
T01
T02
T03
age=20
0.4
0.3
0.2
0.1
Fr01avg
Fr05avg
T01
T02
age=25
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Fr01avg
Fr05avg
T01
T02
age=30
1.5
1.0
0.5
0.0
Fr01avg
Fr05avg
T01
T02
organID
age=35
3
2
1
0
−1
Fr01avg
Fr05avg
T01
T02
organID
age=40
6
4
2
0
−2
Fr01avg
Fr05avg
T01
organID

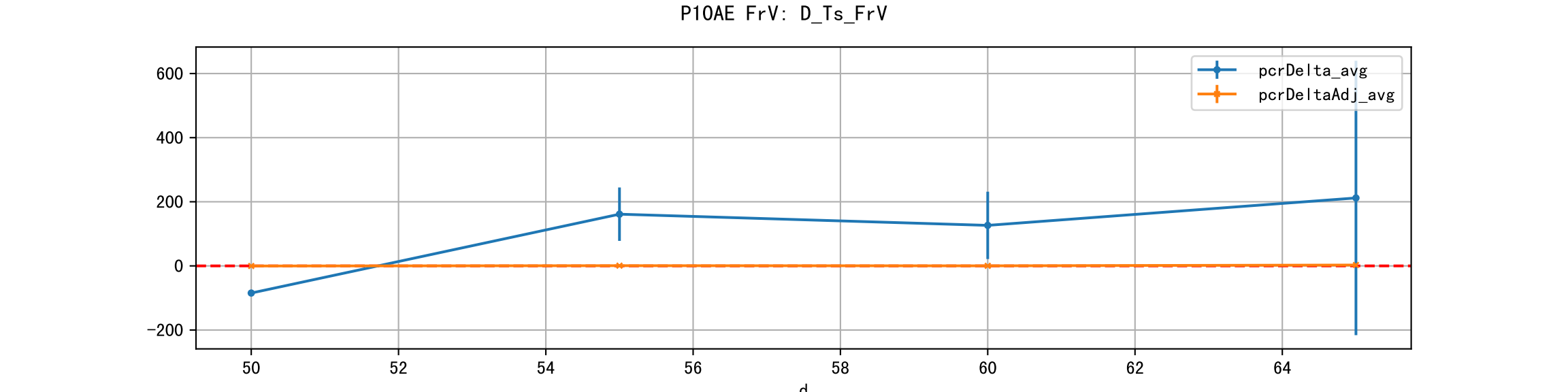

FrV: model Est vs obsFrV at Q90
q50
Fr01_est
Fr05_est
60
50
40
30
20
10
0
15
20
25
30
35
40
age

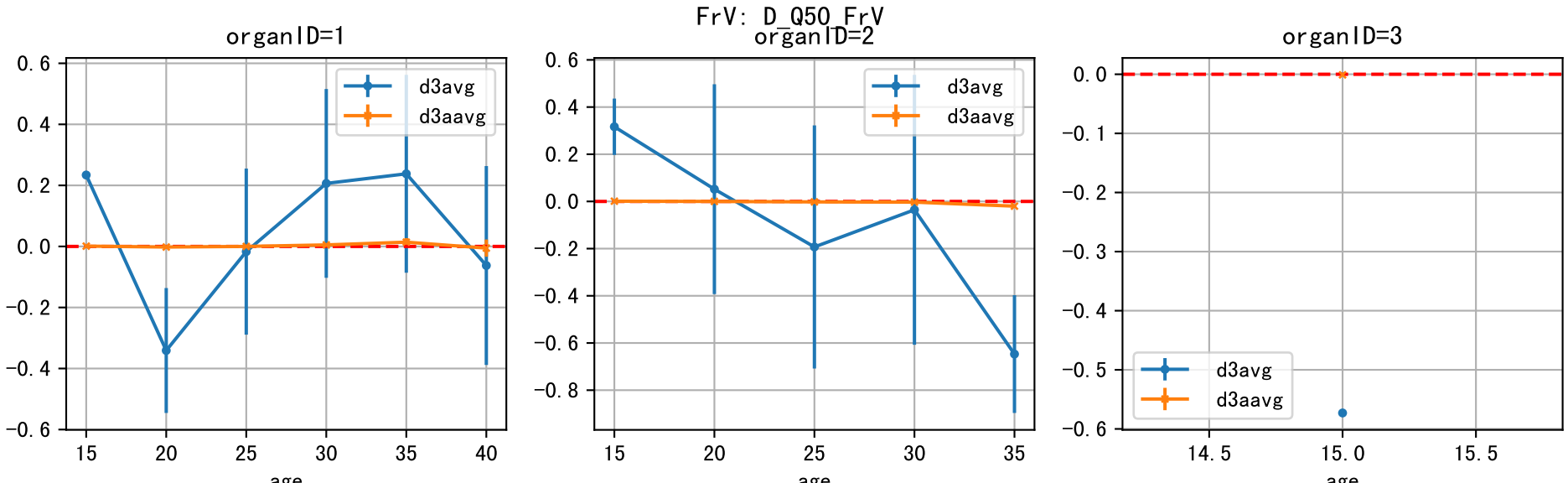

FrV: obsFrV vs obsFrV@Q90
q50
Fr01_avg
Fr05_avg
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
15
20
25
30
35
40
age

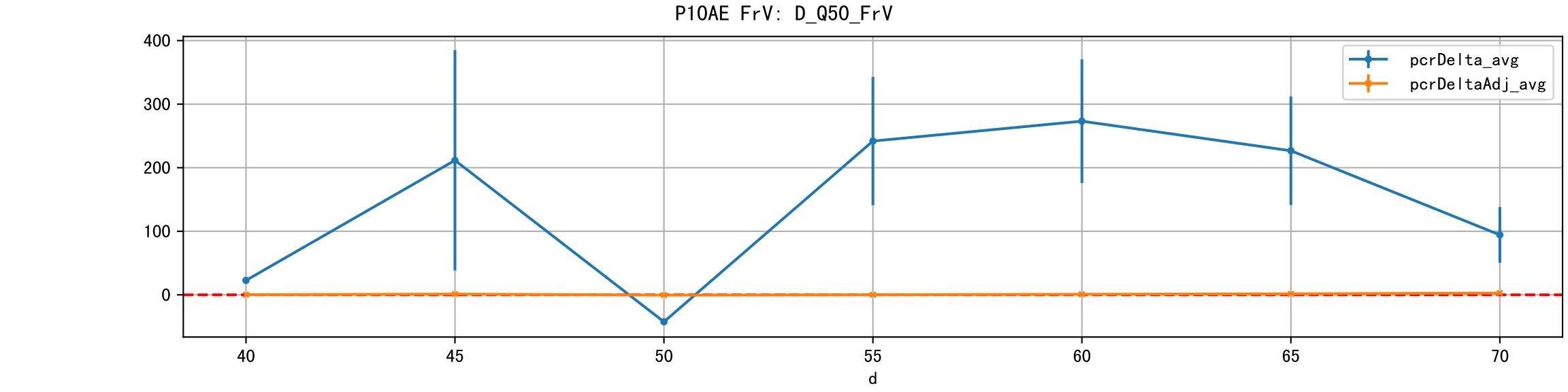

FrV: D_Fr1_FrV
organID=1
organID=2
organID=3
d1avg
d1aavg
1.5
1.0
0.5
0.0
-0.5
0.1
-0.1
-0.2
0.04
0.02
0.00
-0.02
-0.04
15
20
25
30
35
40
16
17
18
19
-0.04
-0.02
0.00
0.02
0.04
age

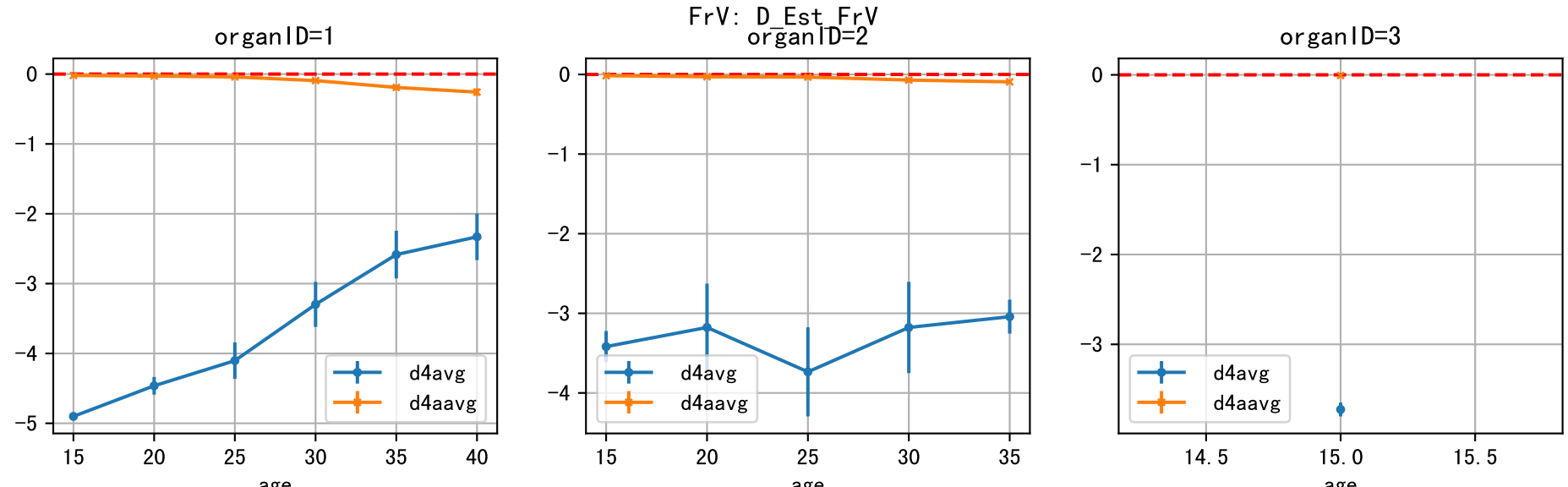

P10AE FrV: D_Fr1_FrV
0
−20
−40
−60
−80
45.0
47.5
50.0
52.5
55.0
57.5
60.0
62.5
65.0
d
pcrDelta_avg
pcrDeltaAdj_avg

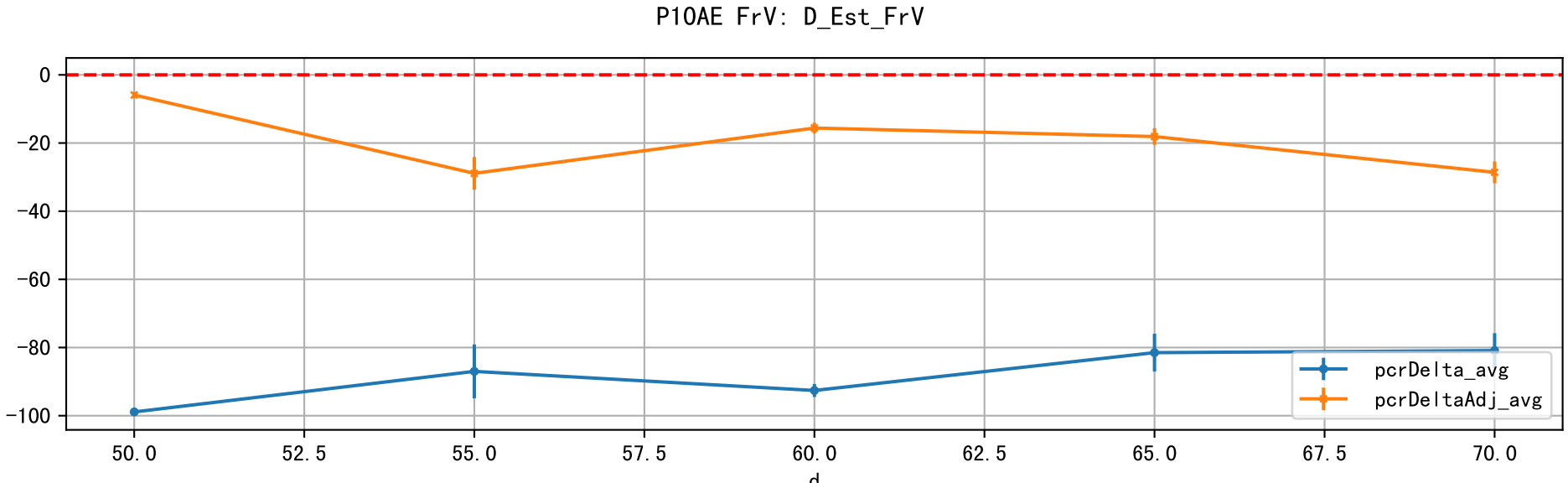

FrV: D_Ts_FrV
organID=1
organID=2
organID=3
d2avg
d2aavg
0.04
0.02
0.00
-0.02
-0.04
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-0.2
-0.4
-0.6
-0.8
15
20
25
30
35
14.5
15.0
15.5
age

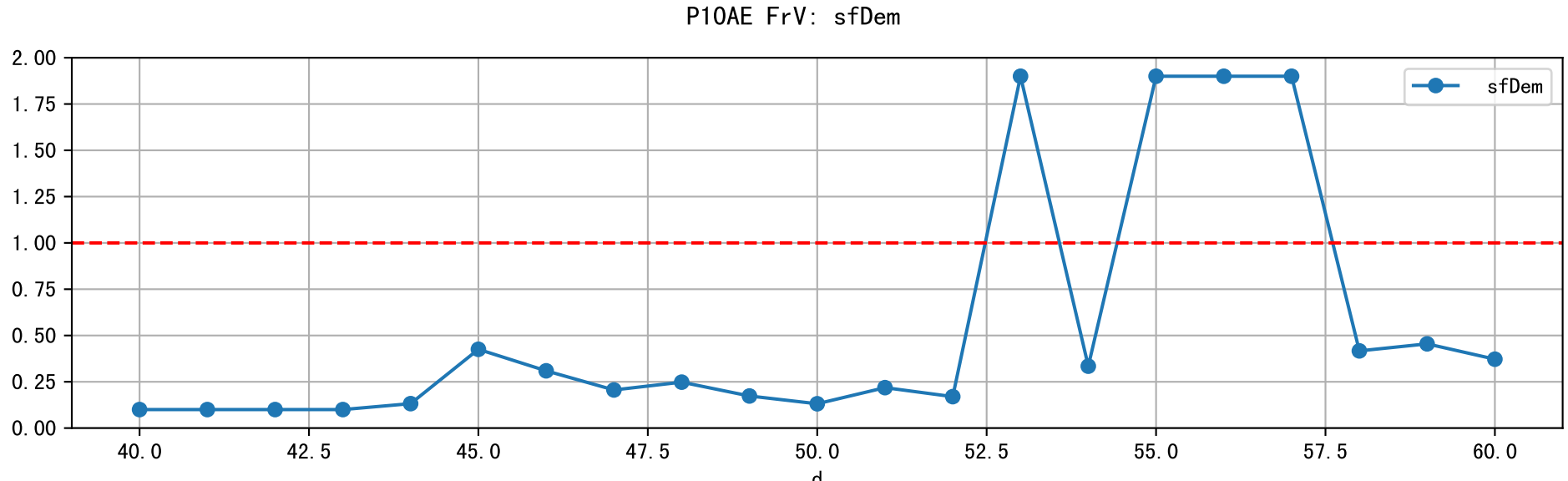

P10AE FrV: D_Ts_FrV
pcrDelta_avg
pcrDeltaAdj_avg
600
400
200
0
−200
50
52
54
56
58
60
62
64
d

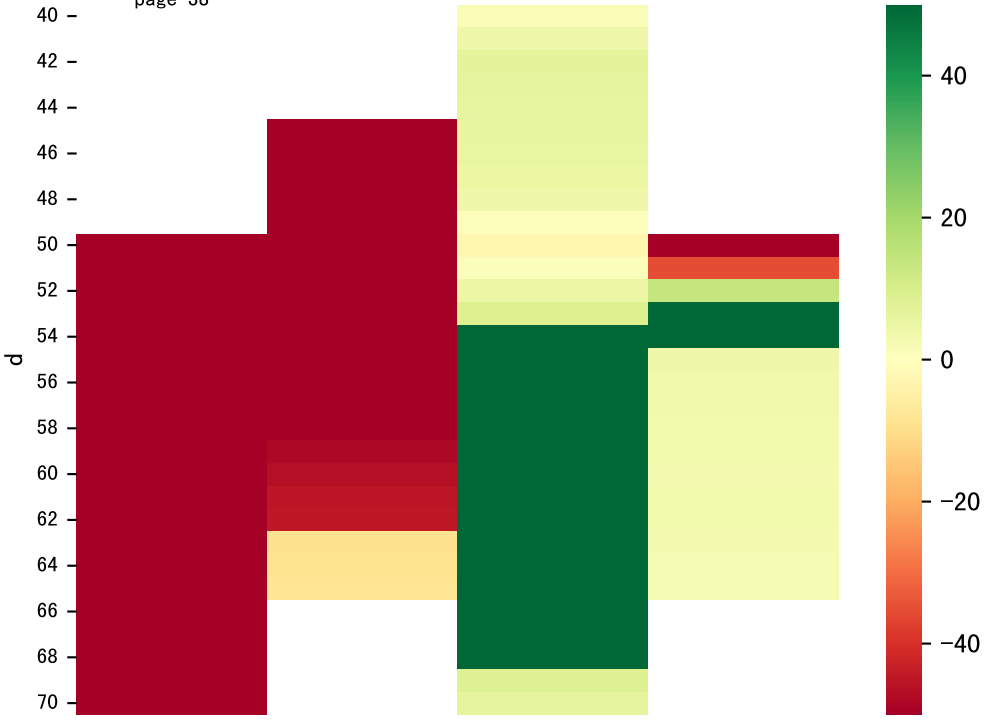

FrV: D_Q50_FrV
organID=1
organID=2
organID=3
d3avg
d3aavg
age

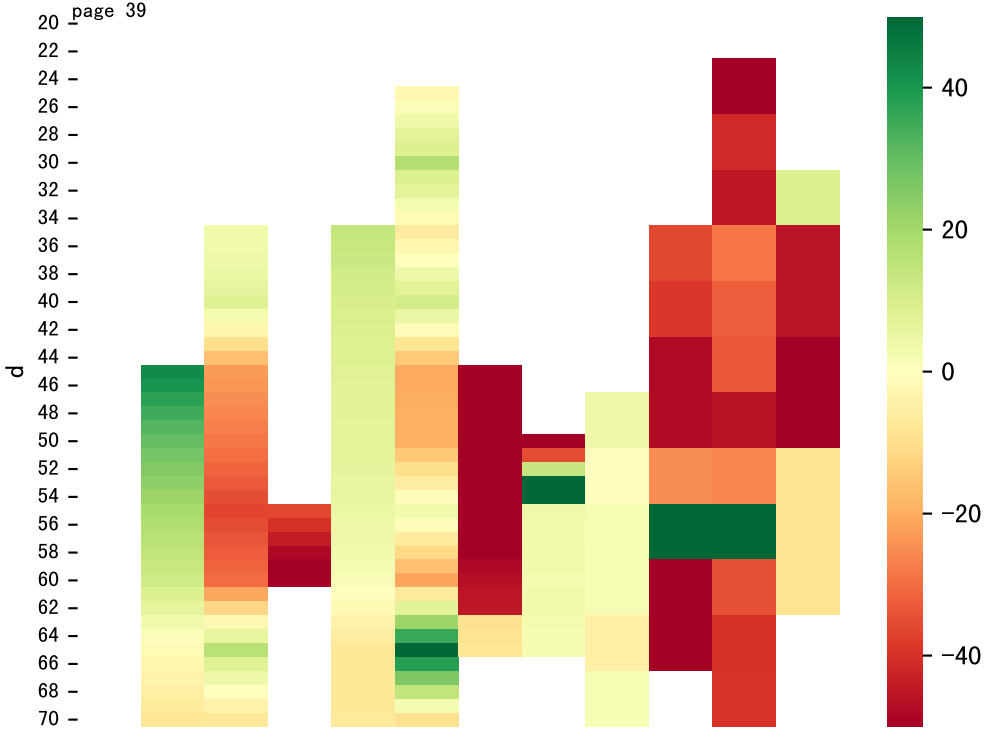

P10AE FrV: D_Q50_FrV
400
300
200
100
0
40
45
50
55
60
65
70
d
pcrDelta_avg
pcrDeltaAdj_avg


FrV: D_Est_FrV
organID=1
organID=2
organID=3
d4avg
d4aavg
age


P10AE FrV: D_Est_FrV
0
−20
−40
−60
−80
−100
50.0
52.5
55.0
57.5
60.0
62.5
65.0
67.5
70.0
d
pcrDelta_avg
pcrDeltaAdj_avg


P10AE FrV: sfDem
sfDem
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
40.0
42.5
45.0
47.5
50.0
52.5
55.0
57.5
60.0
d


d
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
40
20
0
−20
−40


d
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
40
20
0
−20
−40