MateBook tracking parameters for ring and linear assay videos:

To set parameters, go to File (top bar)>Settings in MateBook GUI before tracking videos

Ring assay parameters:

Arena Detection

Arena diameter – 20 mm
Arena Border Size – 0.5 mm
Arena shape – select ‘ring’
Arena interior - select ‘dark’

Fly Tracking

Hints

Flies per arena - 1

For Debugging

Check Split Bodies and Split Wings (uncheck the rest)

Segmentation

Threshold Offest – 0.00
Minimum Fly Body Size: 0.50 mm^2
Maximum Fly Body Size: 2 mm^2

Occlusions

sSize Linear Weight: 1.00
tPos Logistic Regression Coefficient: 6.60
tBoc Logistic Regression Coefficient: 5.32

Heading

sMotion Weight: 0
sWings Weight:0
sMaxMotionWings Weight: 0
sColor Weight: 1
tBefore Weight: 6

Annotations

Check ‘Use Manual Occlusion Solution’

Linear assay parameters

Arena Detection

Arena diameter – 75 mm
Arena Border Size – 0.5 mm
Arena shape – select ‘rectangle’

Arena interior - select ‘either’

Fly Tracking

Hints

Flies per arena – 1

For Debugging

Check ‘Split Bodies’ and ‘Split Wings’ (uncheck the rest)

Segmentation

Threshold Offest – 0.00,
Minimum Fly Body Size: 0.50 mm^2
Maximum Fly Body Size: 2 mm^2

Occlusions

sSize Linear Weight: 1.00,
tPos Logistic Regression Coefficient: 6.60
tBoc Logistic Regression Coefficient: 5.32

Heading

sMotion Weight: 0
sWings Weight:0
sMaxMotionWings Weight: 0
sColor Weight: 1
tBefore Weight: 6

Annotations

Check ‘Use Manual Occlusion Solution’

Main Matlab scripts for analyzing forward and backward locomotion from MateBook-generated tracking data (see ‘moonwalk_20131006’ folder):

- motionPlotsMateBook.m (linear assay)
- motionPlotsRingMod.m (ring assay)
- transposeCatResults.m