Here, we summarized the data, code, and necessary documents. We used Matlab and R as our tools, and the code were integrated them as a .mlapp named” trajectory.mlapp” in the folder named “LoMcT” for ease of use.

**How to use** “**trajectory.mlapp” :**

1．Install the R language module in MATLAB, and install the MATLAB library in R.

2. Change the path in. R file:

library("R.matlab")

setwd("C:/Users/ad/Desktop/guijitest")

to the corresponding path you use.

3. Change the paths in MATLAB file:

Line 530 Rpath = 'D:\动物迁徙\拟合\R\R-3.6.3\R-3.6.3\bin';%The R language installation path

Line 531 RscriptFileName ='.\XXXXX1.R'; %R file storage path

to the corresponding path you use.

4. Then choose the dataset name “Anthus\_spragueii”, press the operation button from top to bottom. (Be sure that you press the next button until “OK‘’ appears in the status box behind).