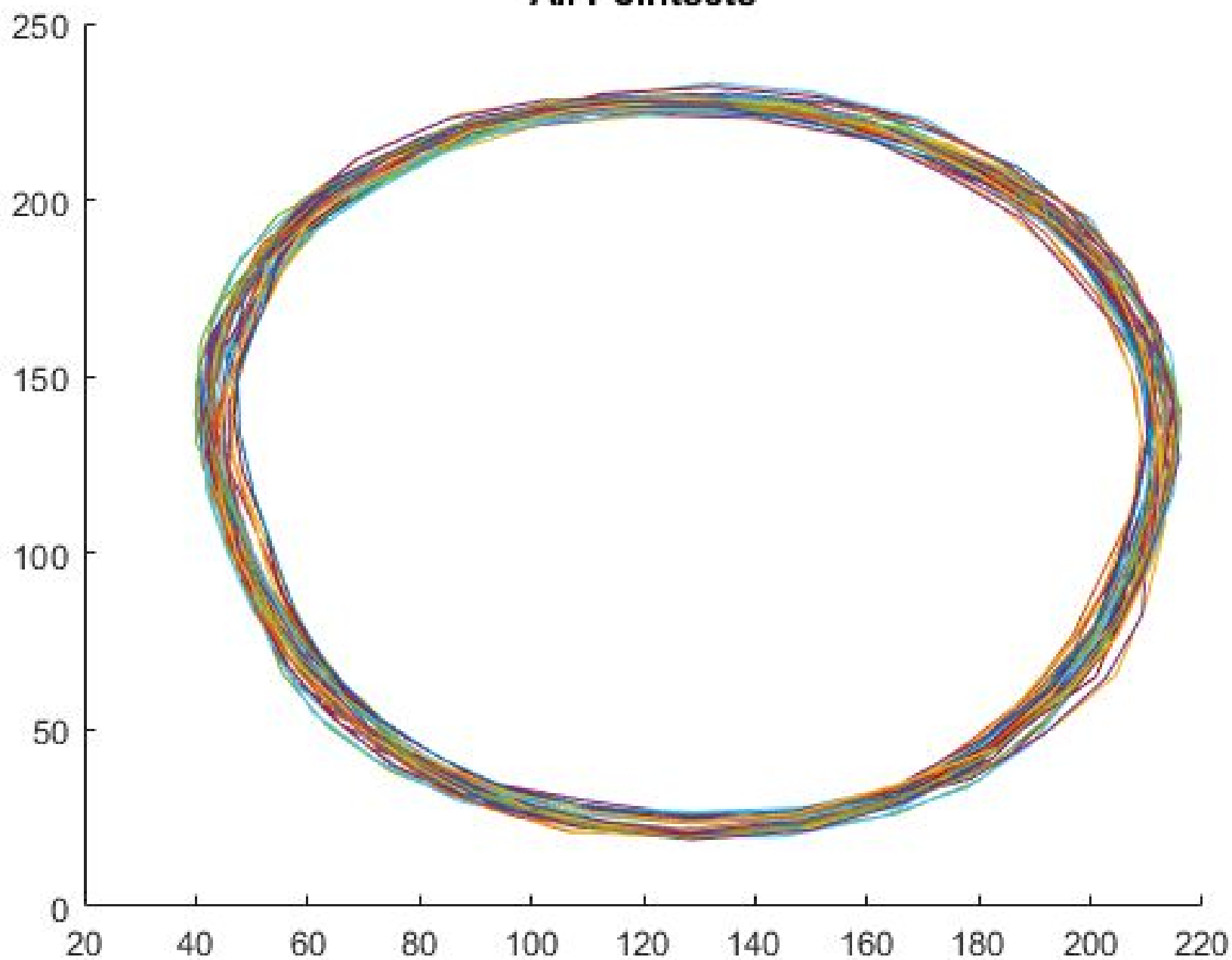
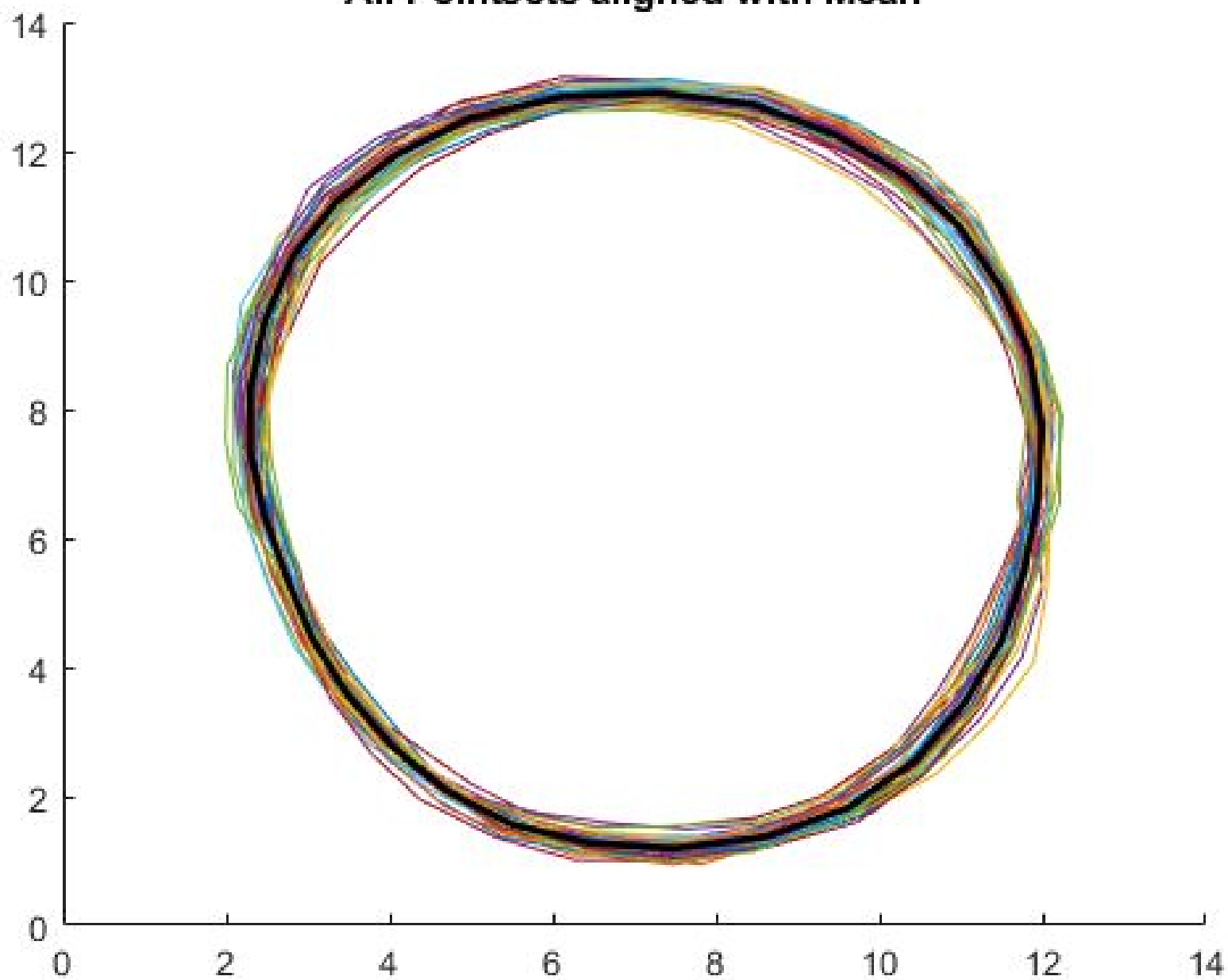


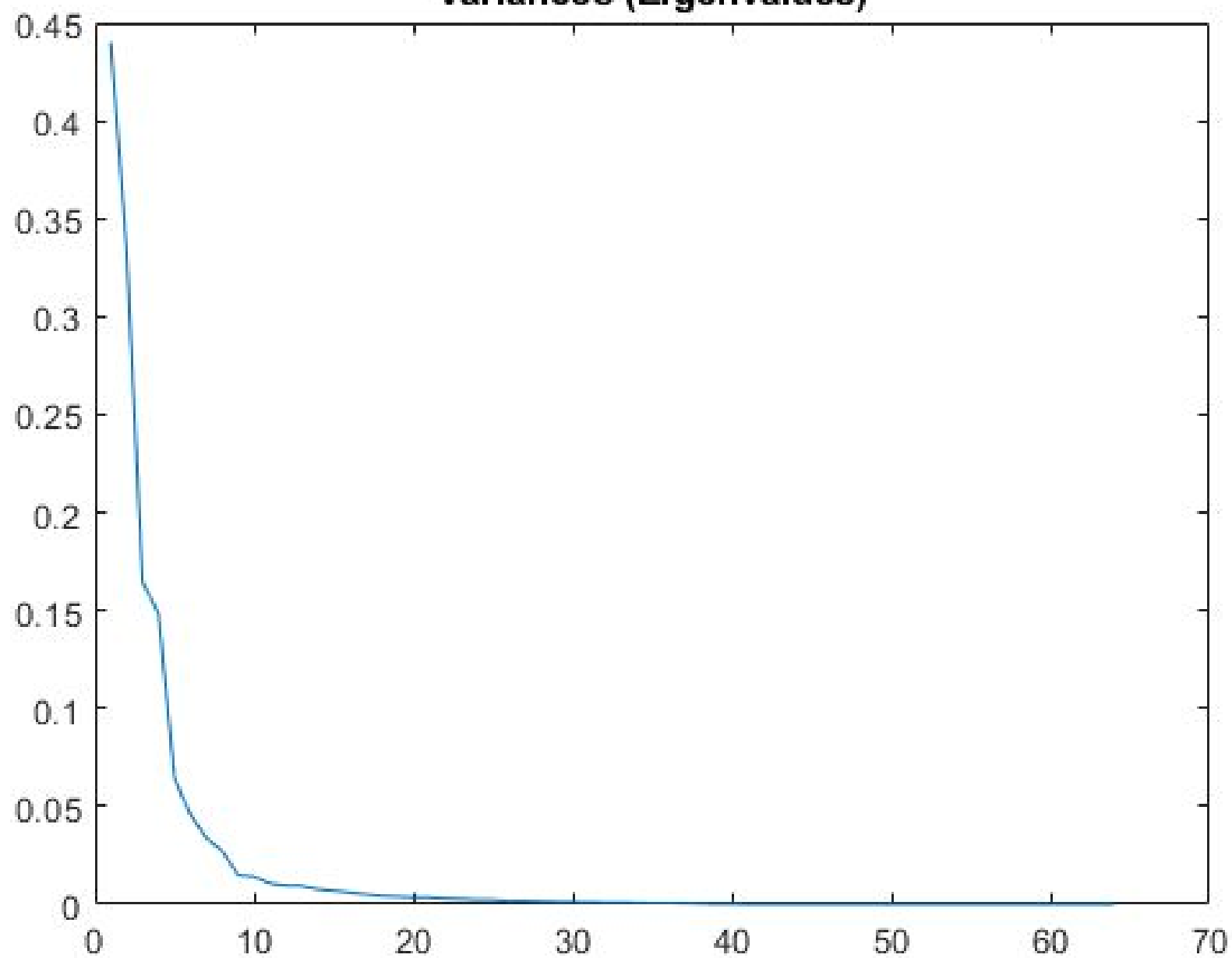
All Pointsets

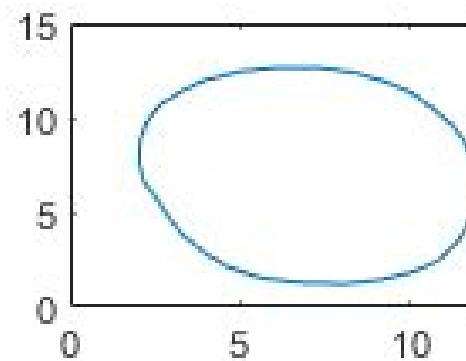
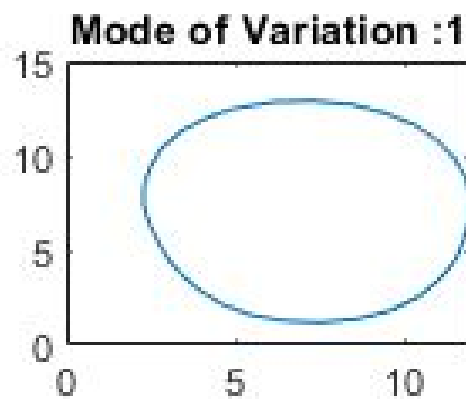
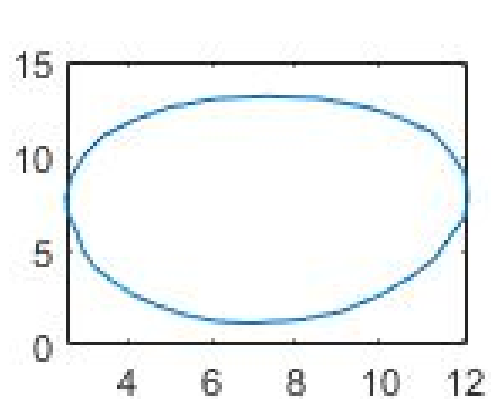


All Pointsets aligned with Mean

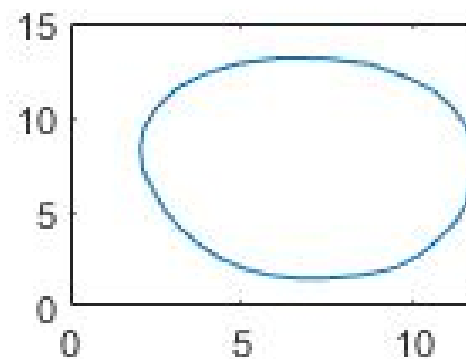
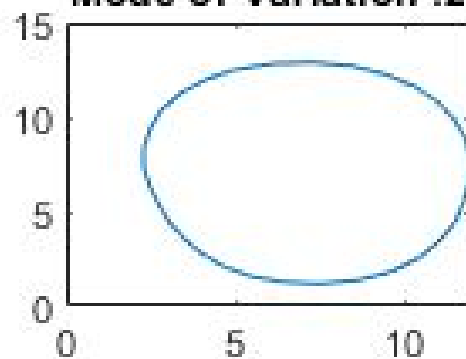
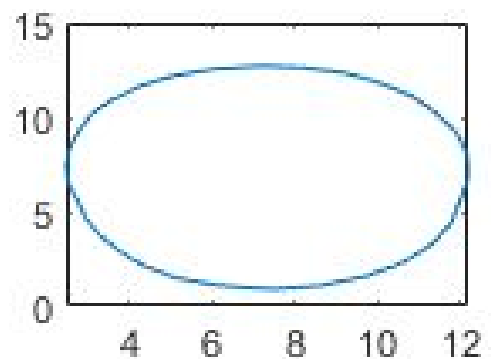


Variances (Eigenvalues)

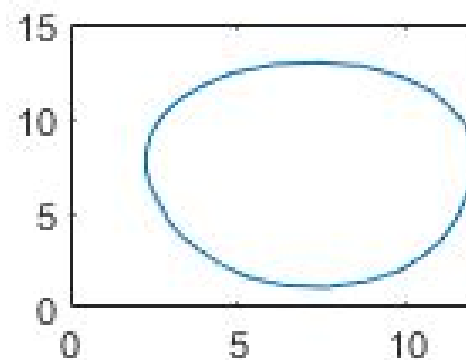
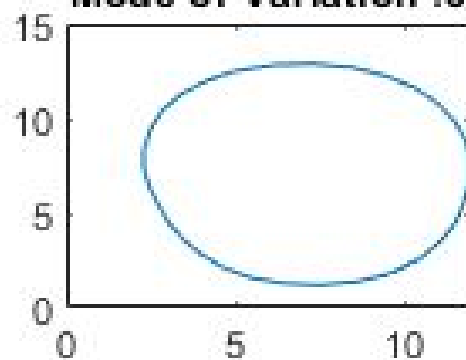
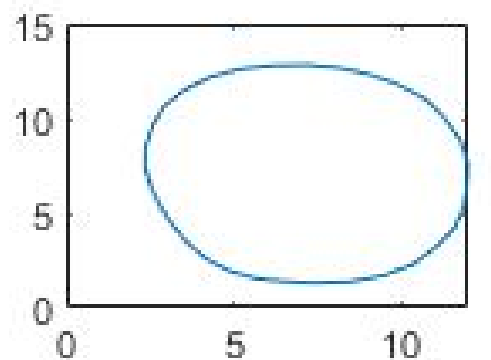




Mode of Variation :1

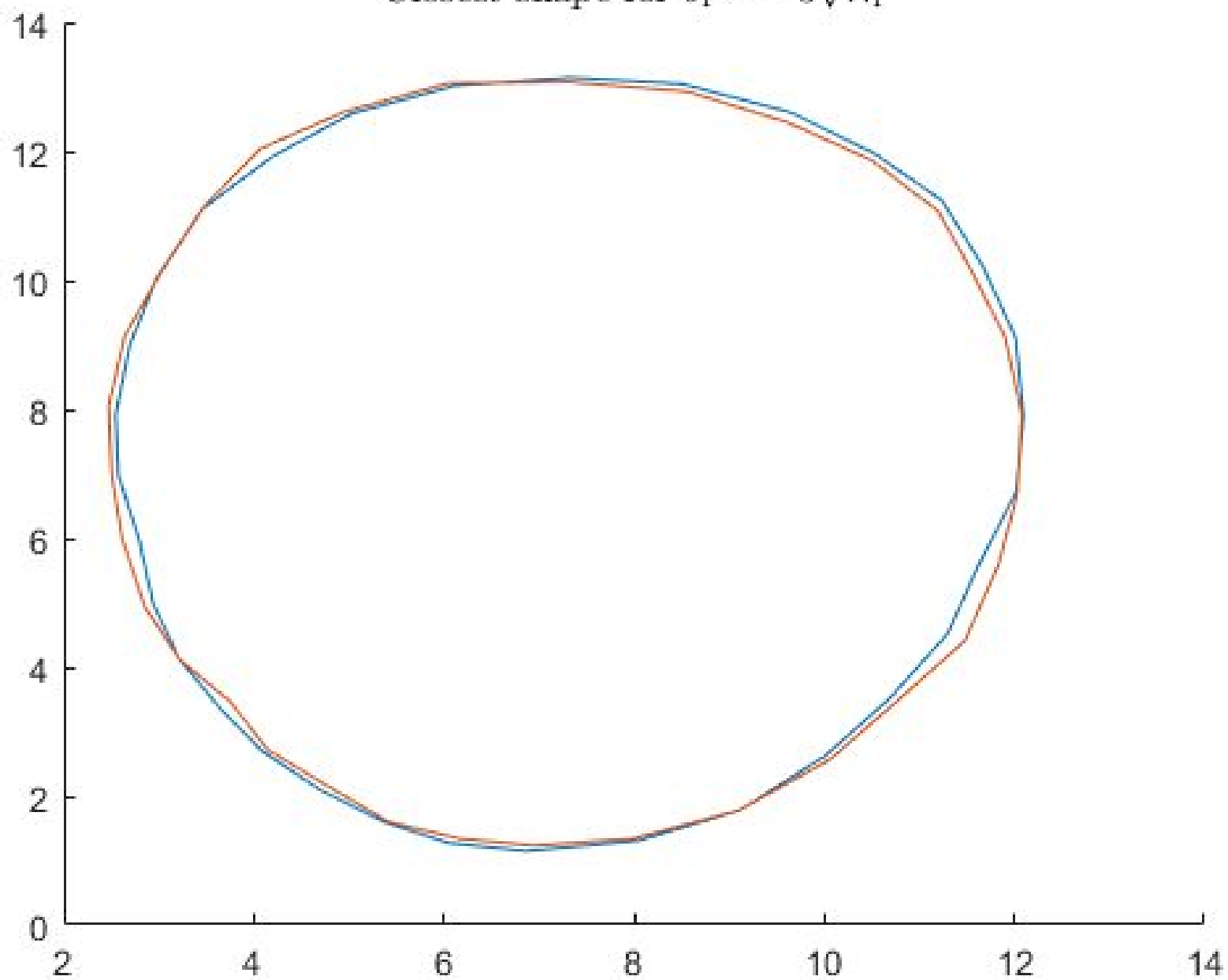


Mode of Variation :2

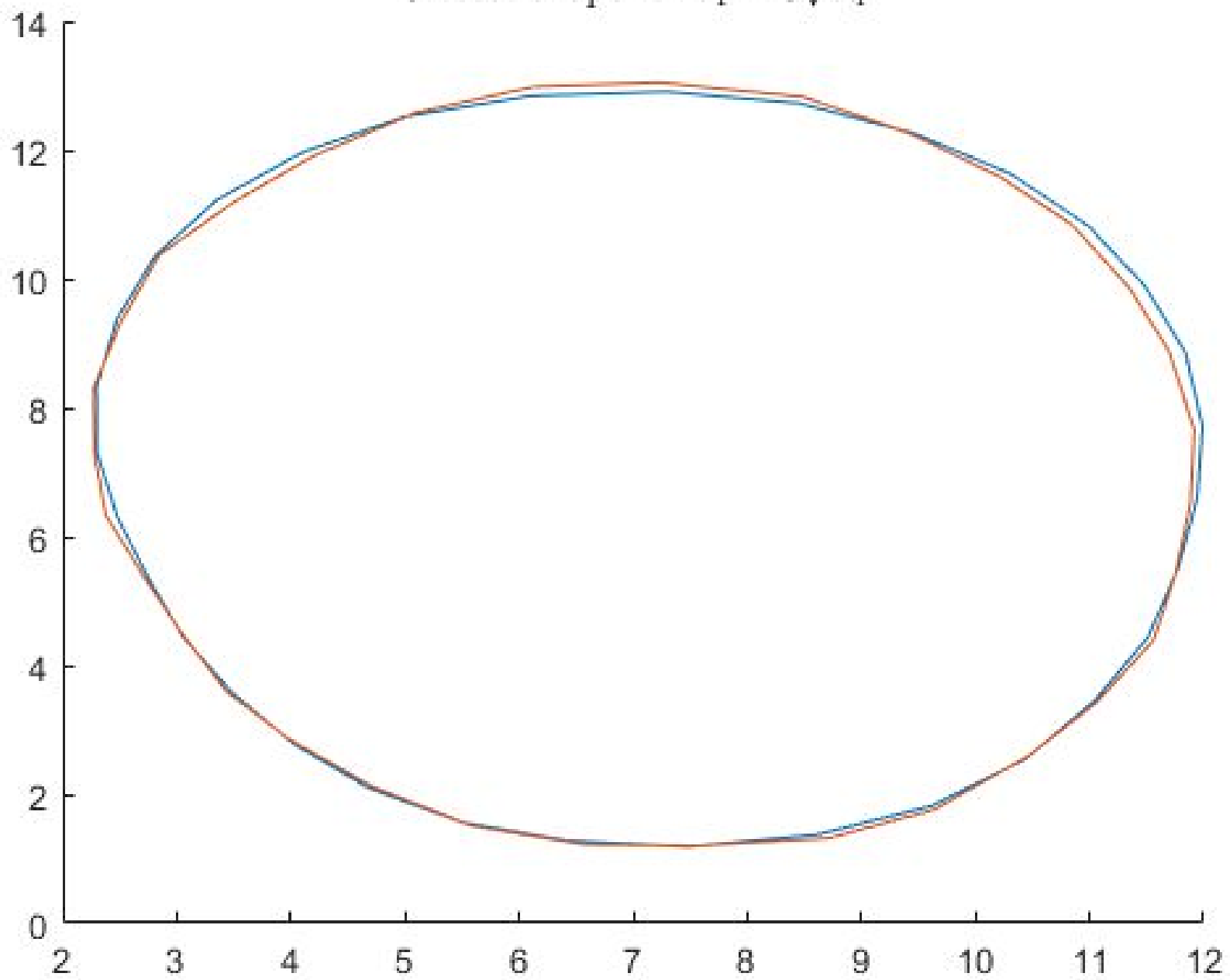


Mode of Variation :3

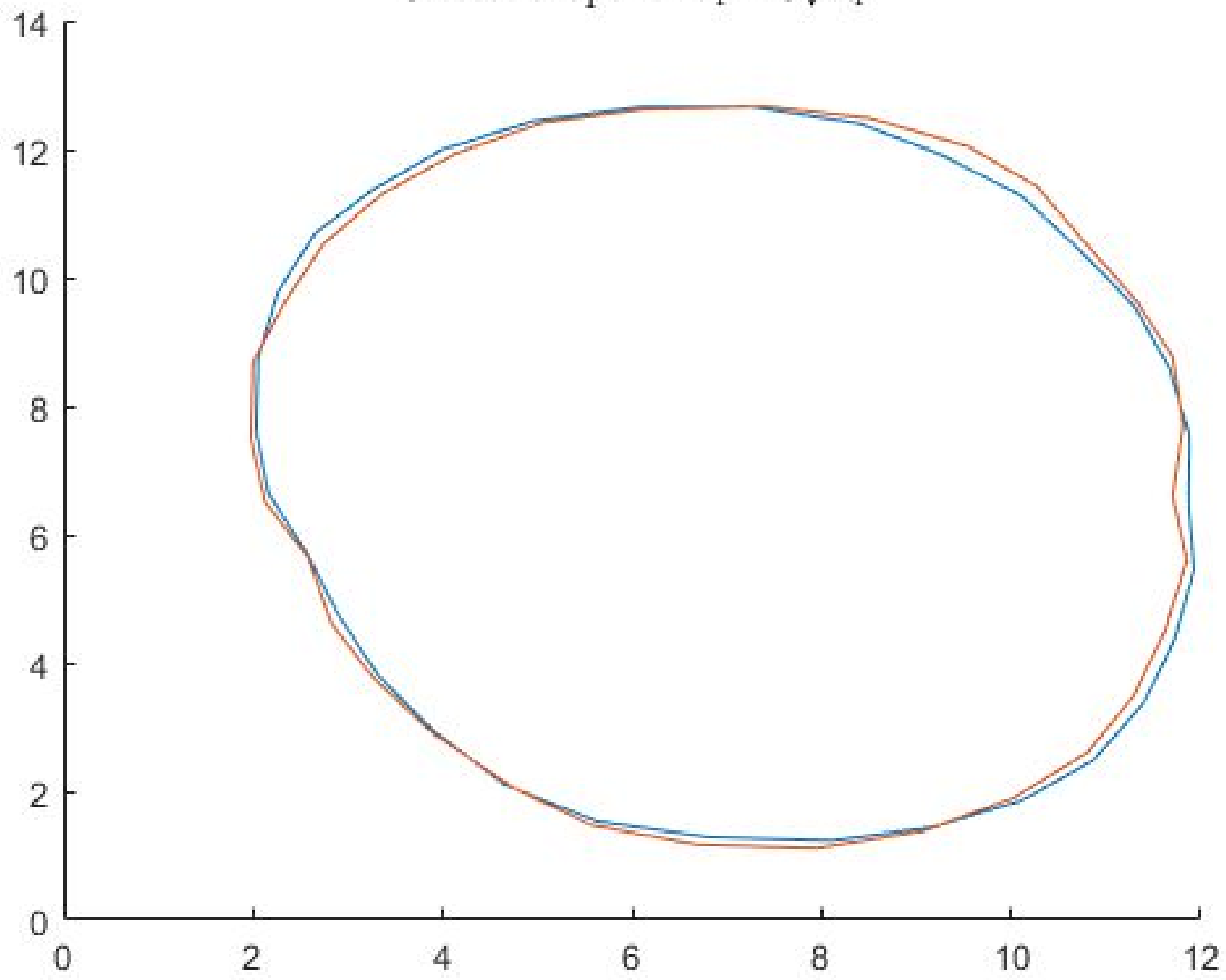
Closest shape for $b_1 = -3\sqrt{\lambda_1}$



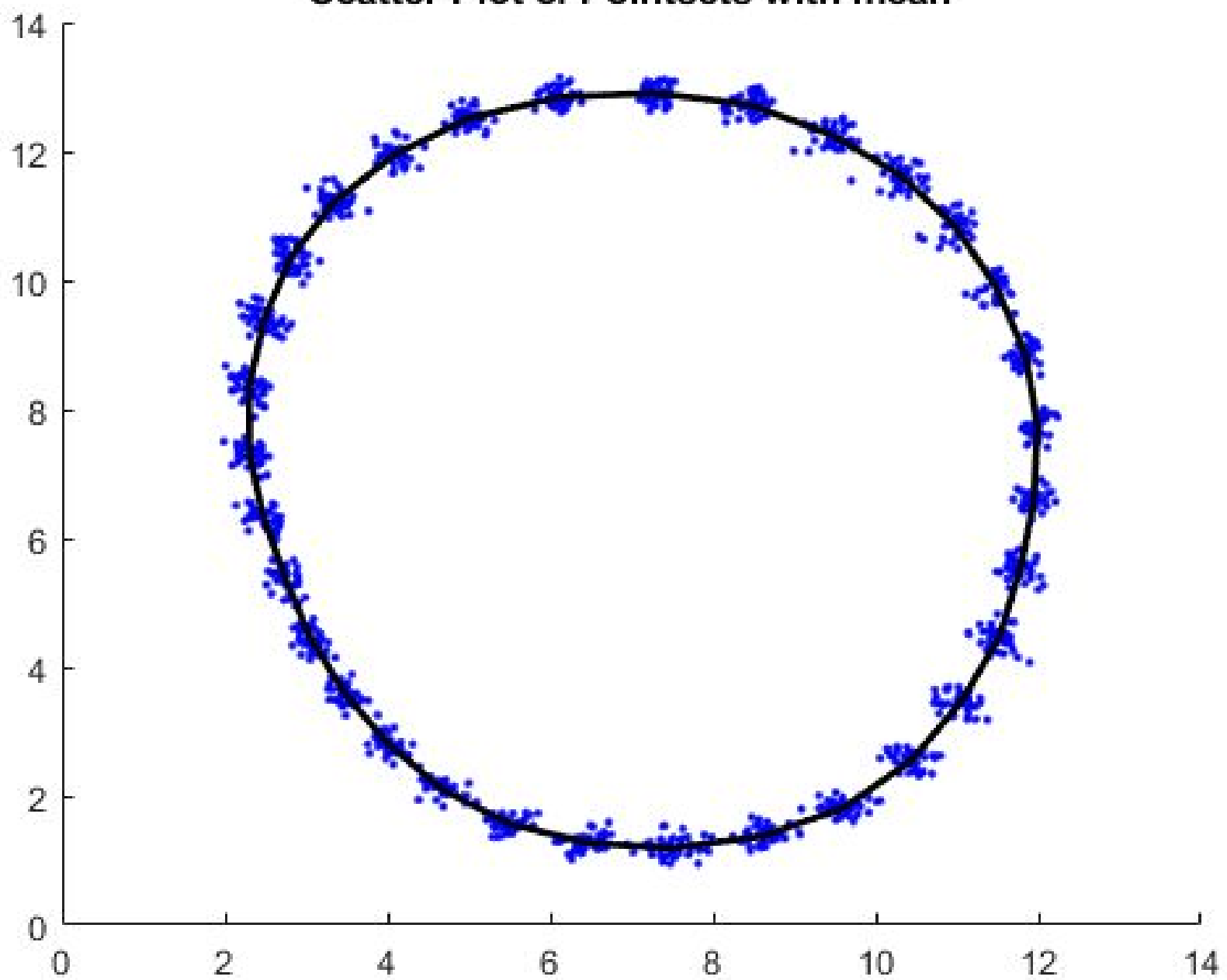
Closest shape for $b_1 = 0\sqrt{\lambda_1}$



Closest shape for $b_1 = 3\sqrt{\lambda_1}$



Scatter Plot of Pointsets with mean



Reference to the results folder :

myMainScript_01.png : All Pointsets : Page 1

myMainScript_02.png : All Pointsets aligned with Mean : Page 2

myMainScript_03.png : Variances (Eigenvalues) : Page 3

myMainScript_04.png : Modes of Variation : Along first 3 modes of variation : Page 4

myMainScript_05.png : ClosestShape_1 : Closest to Mean $-3 \sqrt{\lambda}$ v : Page 5

myMainScript_06.png : ClosestShape_2 : Closest to Mean : Page 6

myMainScript_07.png : ClosestShape_3 : Closest to Mean $+3 \sqrt{\lambda}$ v : Page 7

myMainScript_08.png : Scatter Plot of Pointsets with Mean : Page 8

Each .mat file contains one variable image which can be shown using imshow.

In the modes of variation plot (page 4), the 1st and 2nd modes of variations correspond more to the horizontal direction. We notice that they are more involved in the broadness of the brain.

We can also observe that there is not a high amount of variation in these shapes and that is natural as the basic shape of brain is similar for all people(close to circle/ellipse), much variation would correspond to an abnormality.