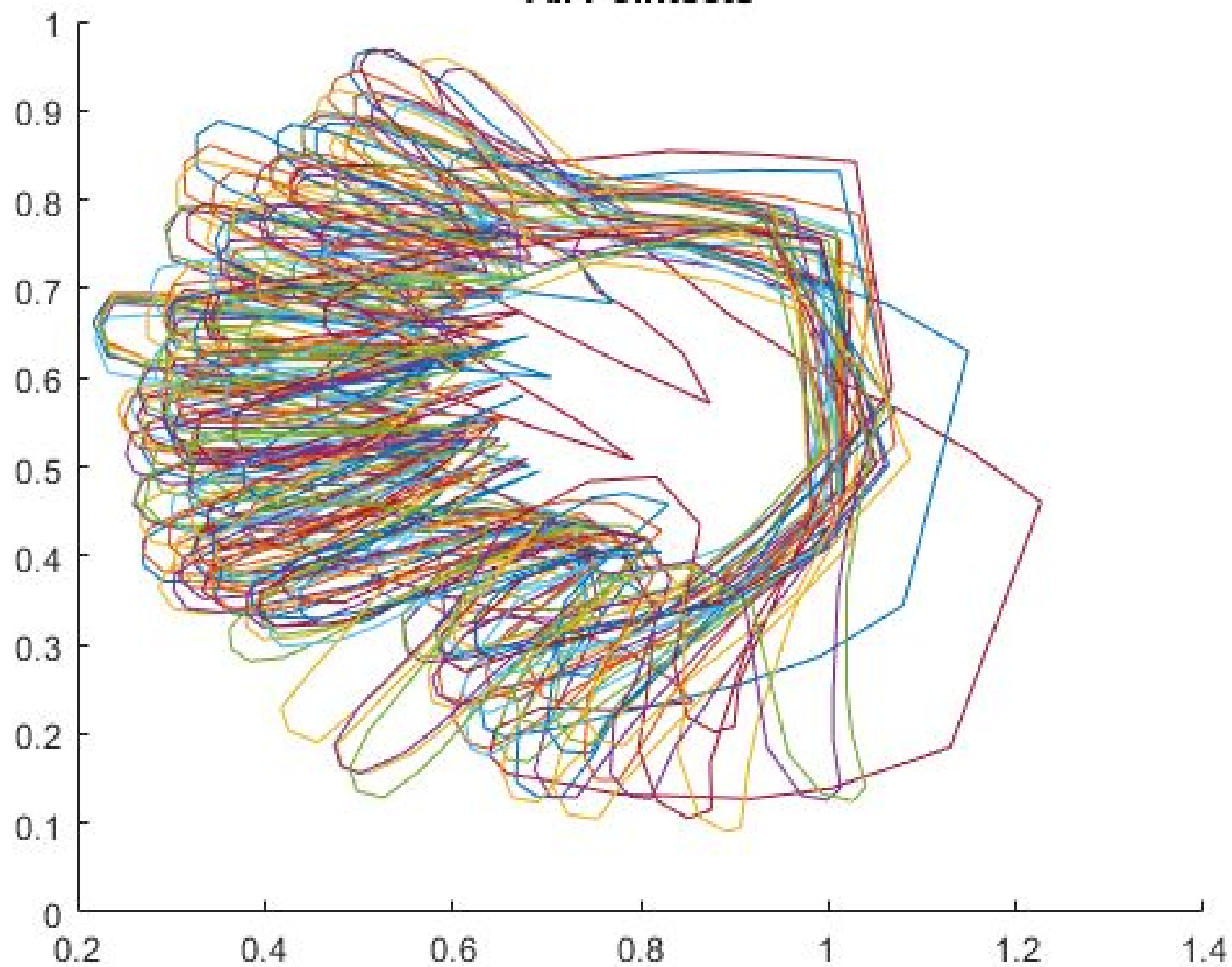
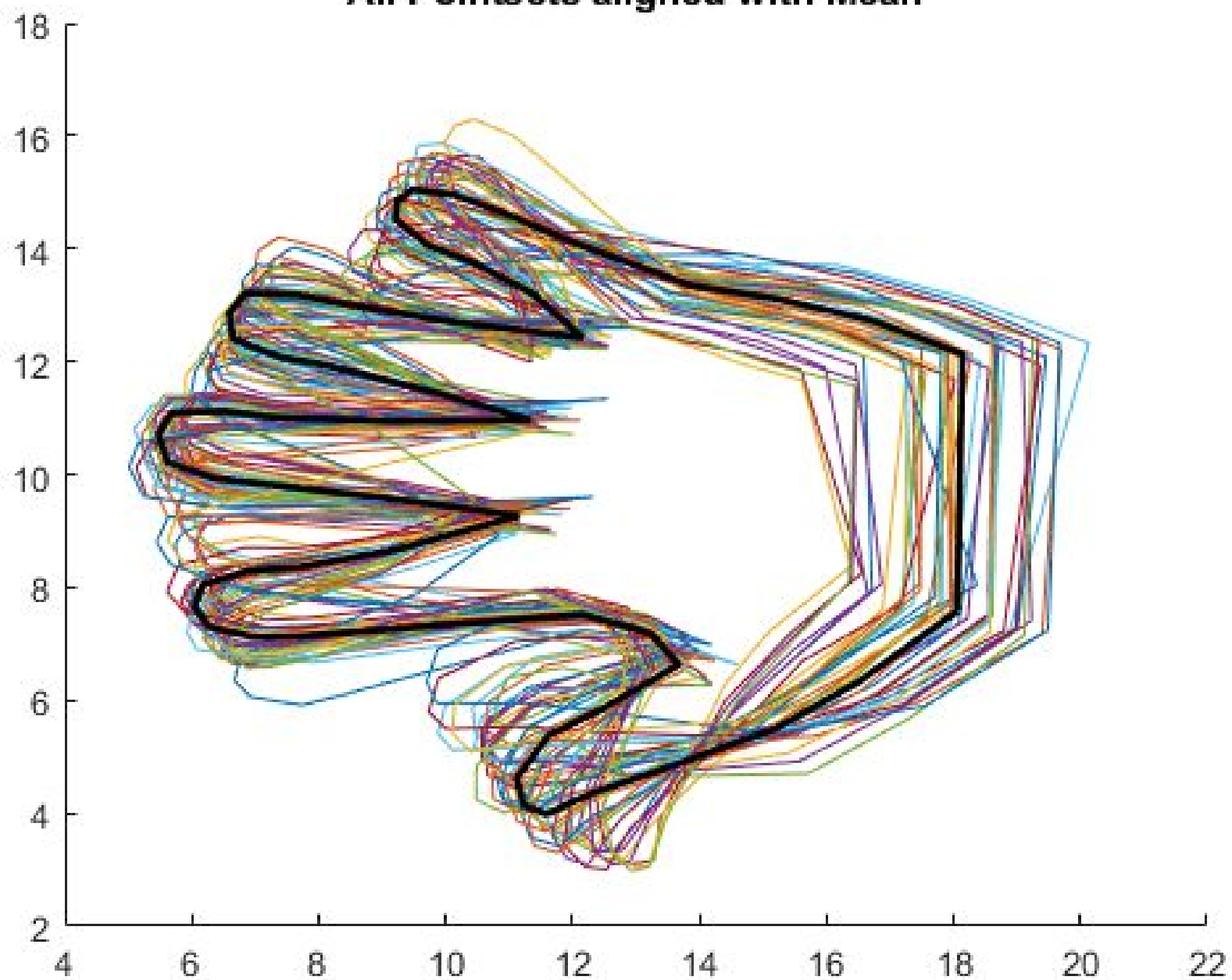


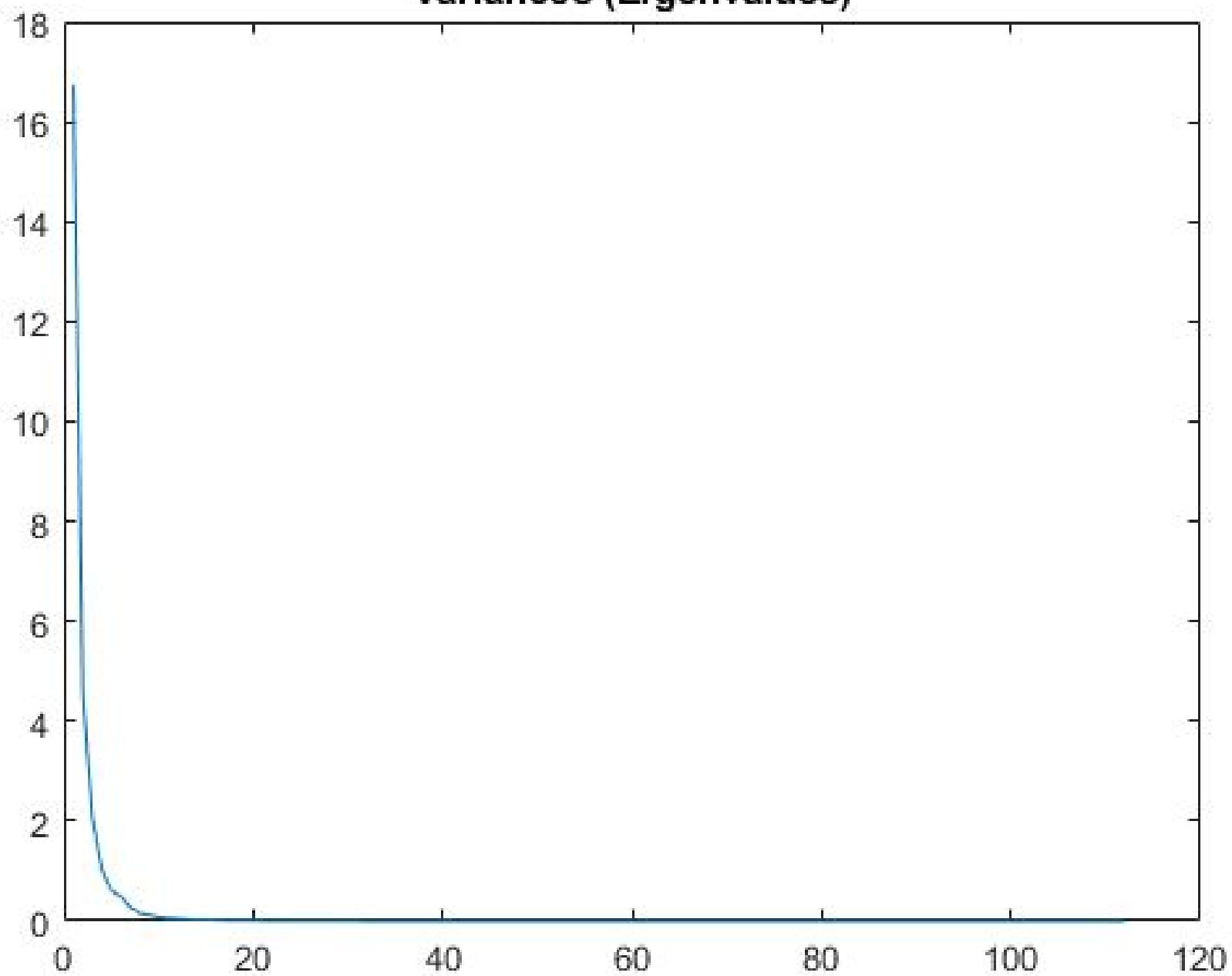
All Pointsets

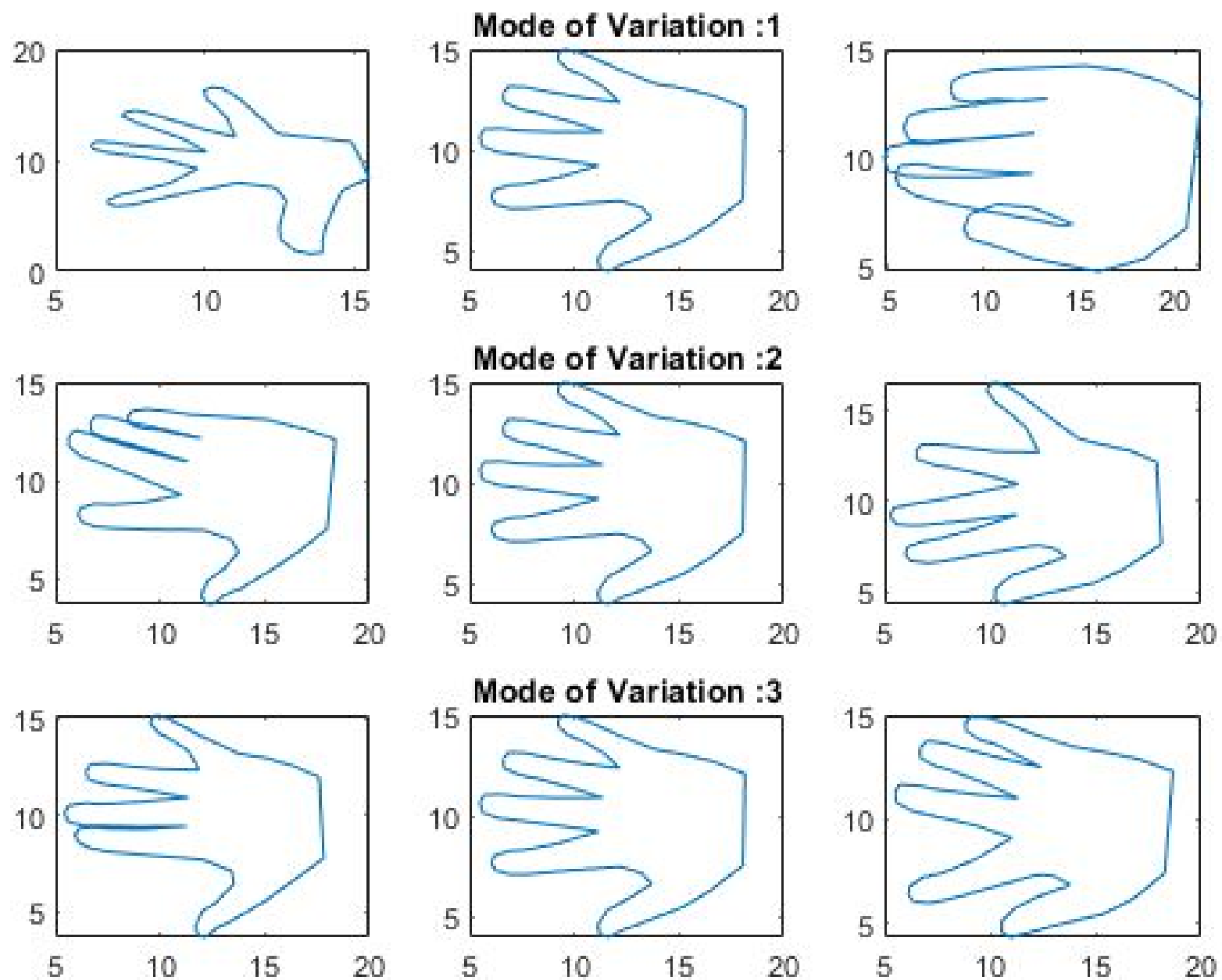


All Pointsets aligned with Mean

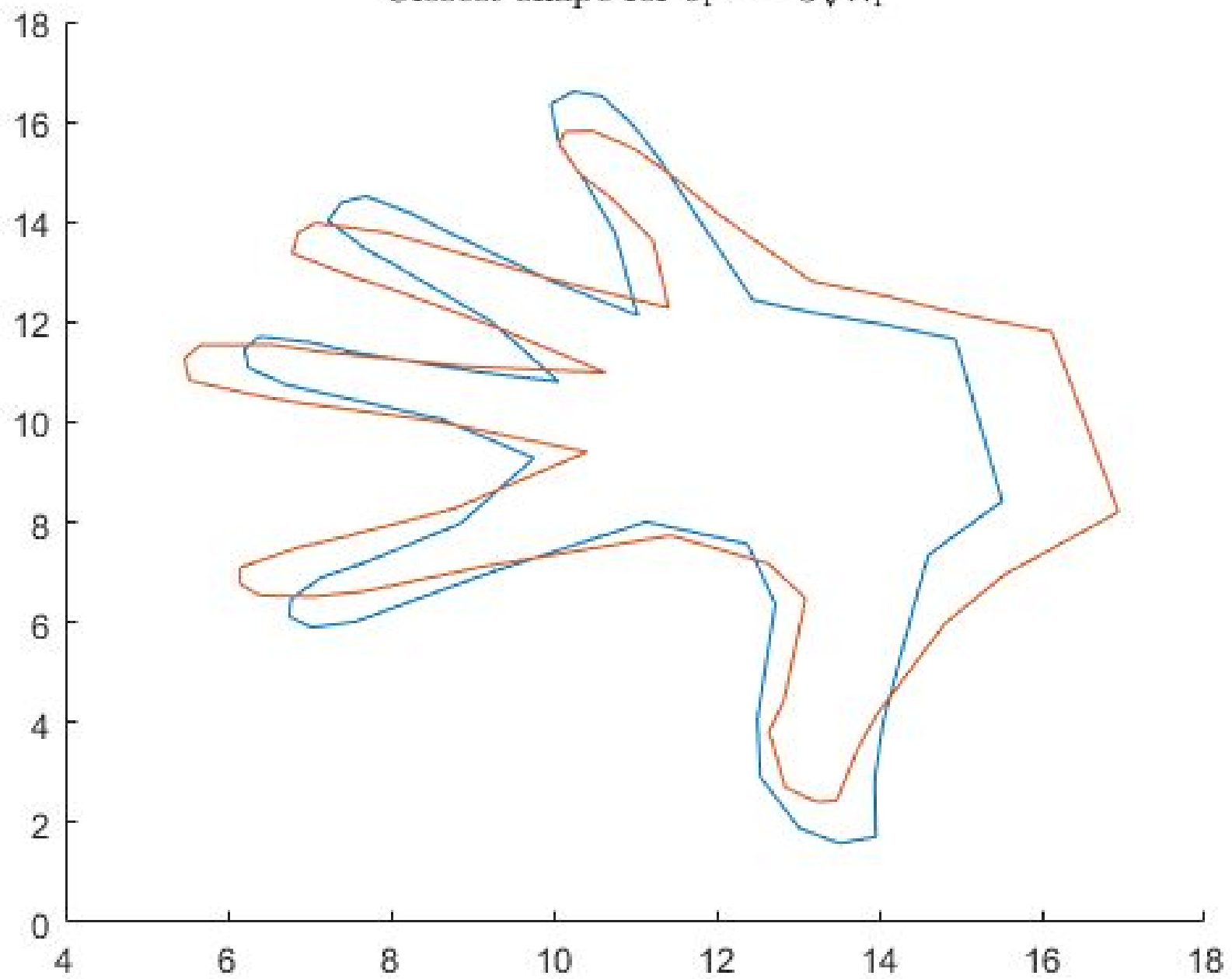


Variances (Eigenvalues)

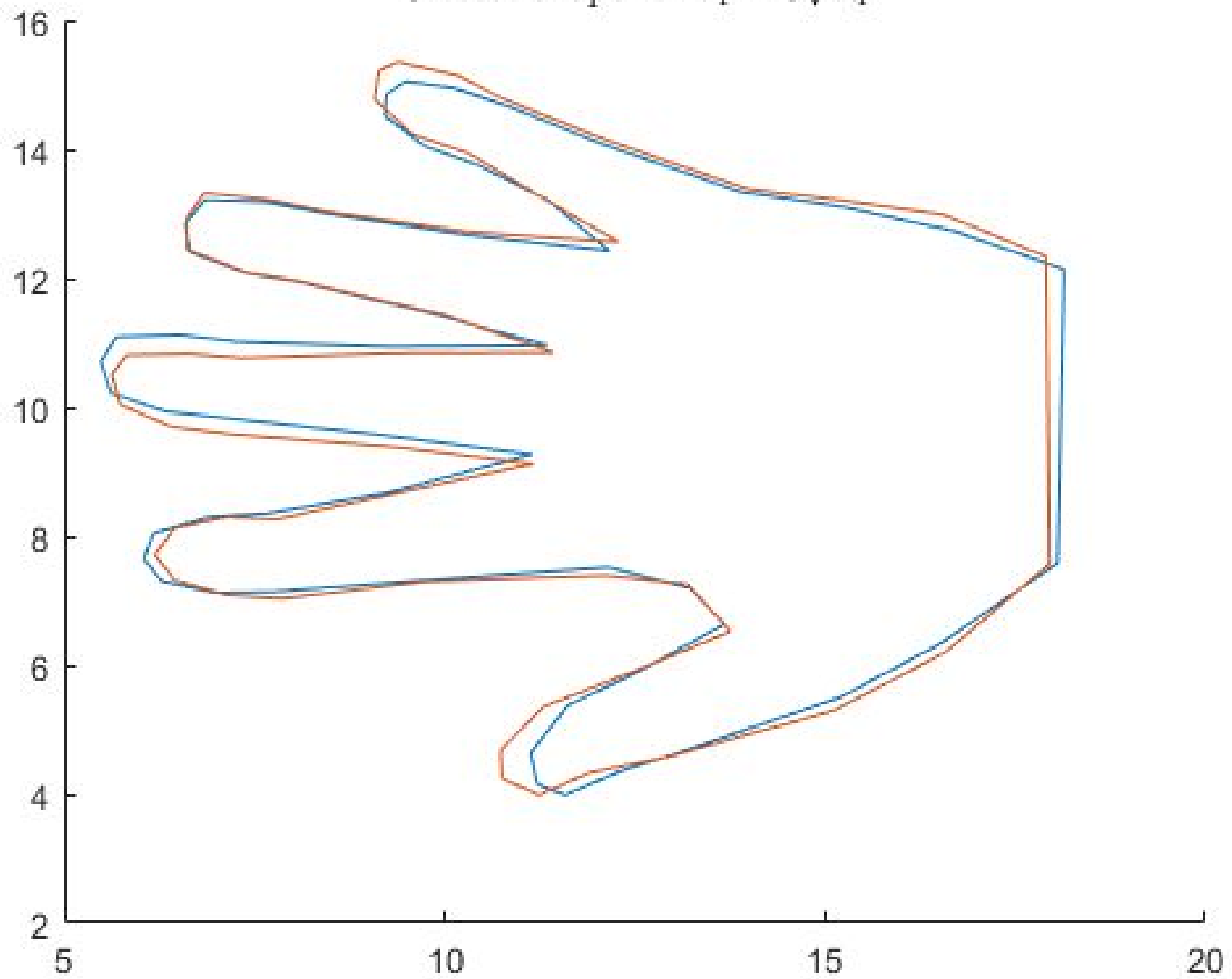




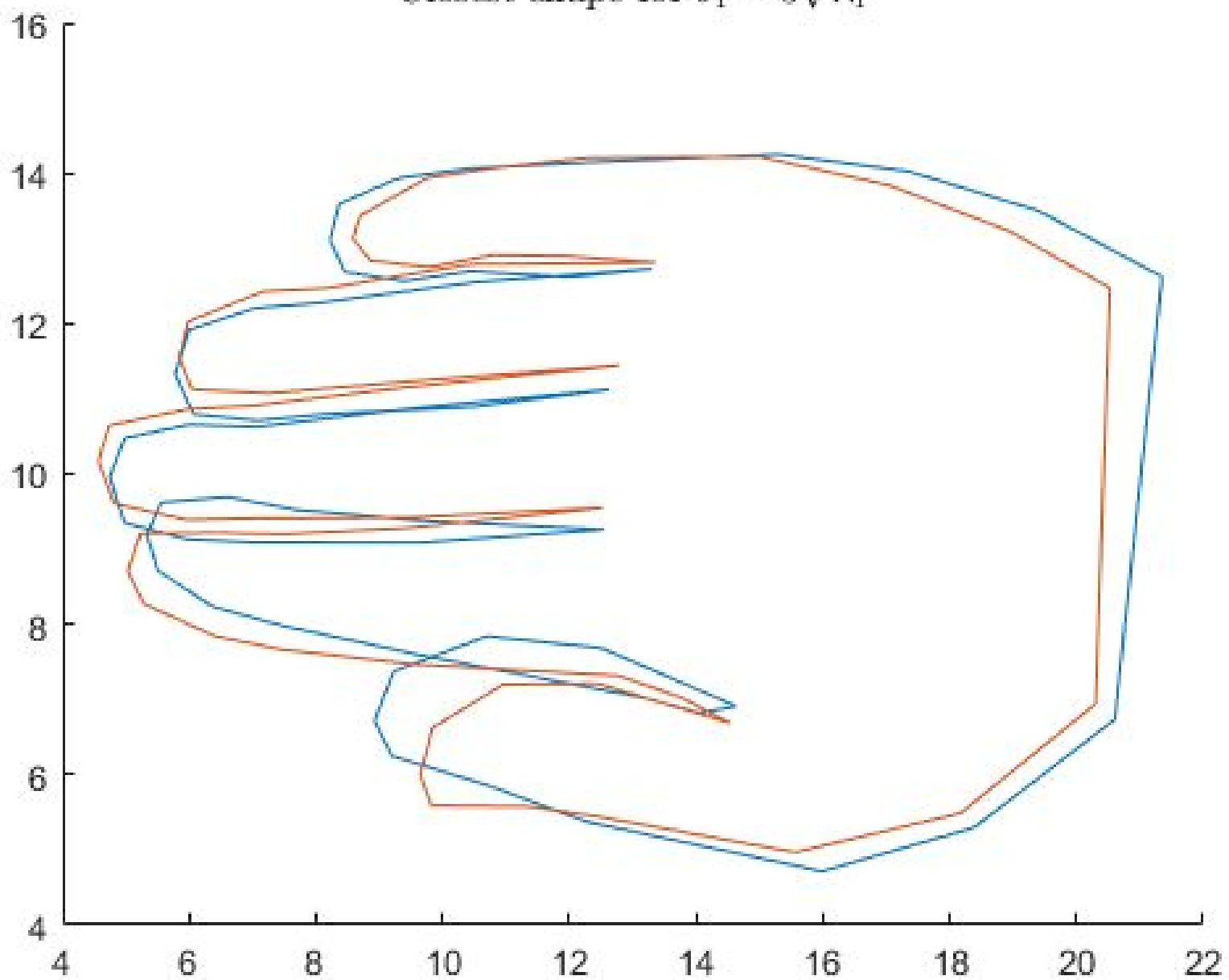
Closest shape for $b_1 = -3\sqrt{\lambda_1}$



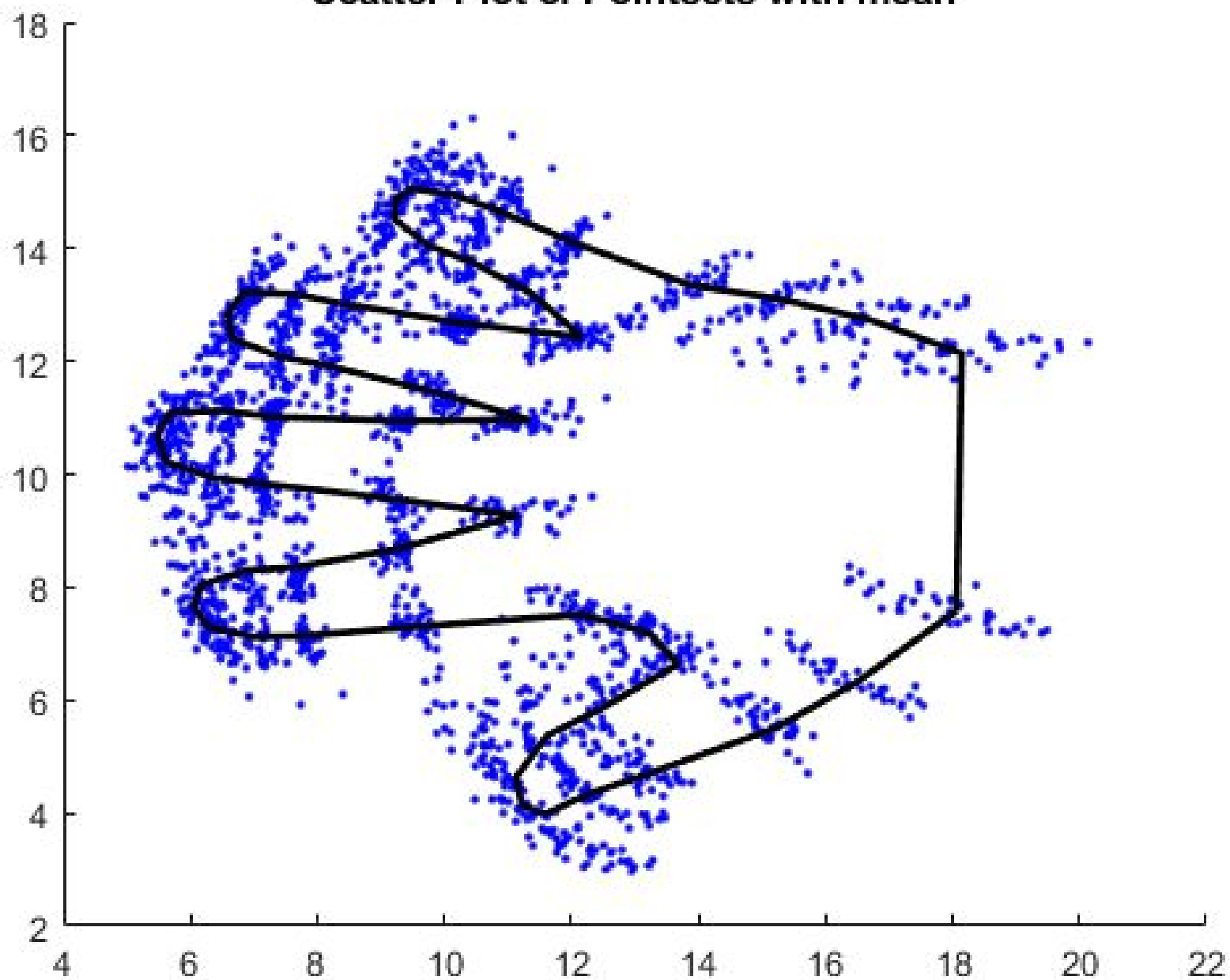
Closest shape for $b_1 = 0\sqrt{\lambda_1}$



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) we observe the following;

- The 1st mode of variation relates to the interspacing between fingers. $+3 \sqrt{\lambda}$ corresponds to fingers being close and $-3 \sqrt{\lambda}$ corresponds to fingers being apart.
- The 2nd mode of variation relates to movement of middle finger and the little finger. $+3 \sqrt{\lambda}$ corresponds to the little finger being far apart while middle finger being close to the index finger. $-3 \sqrt{\lambda}$ corresponds to middle finger being far from the index finger and little finger being close to the ring finger.
- The 3rd mode of variation relates to movement of index finger. $+3 \sqrt{\lambda}$ corresponds to index finger being far from middle finger and $-3 \sqrt{\lambda}$ corresponds to the index finger being close to the middle finger.

Another observation in the 1st mode of variation is that the fingers overlap in the mean $+3 \sqrt{\lambda}$ image(which doesn't happen in real life). This resulted because the eigenvalue corresponding to this direction is high, causing points to move by higher amounts and hence the overlap.