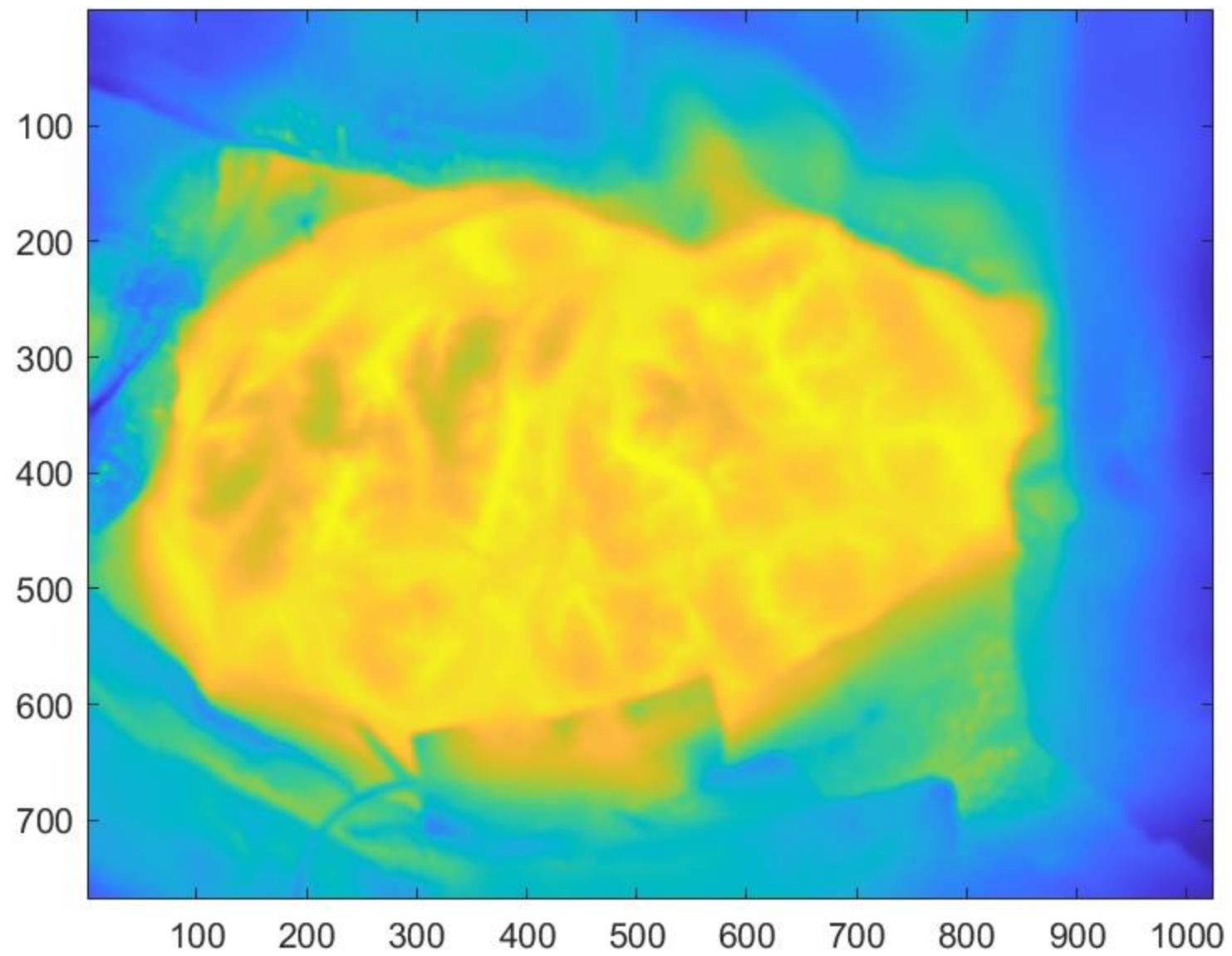


Supplementary Material

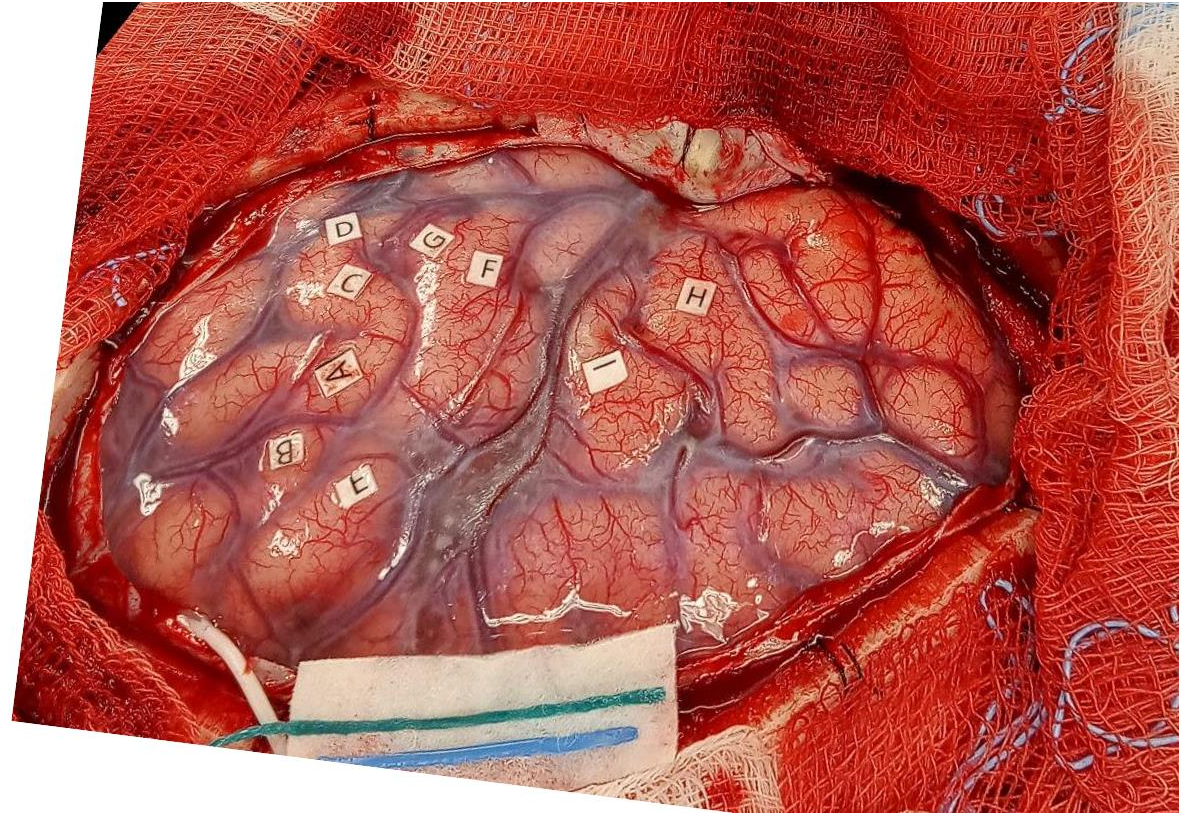
Part 1: Individual Subject PCA Results

Patient 1: Lip Pursing

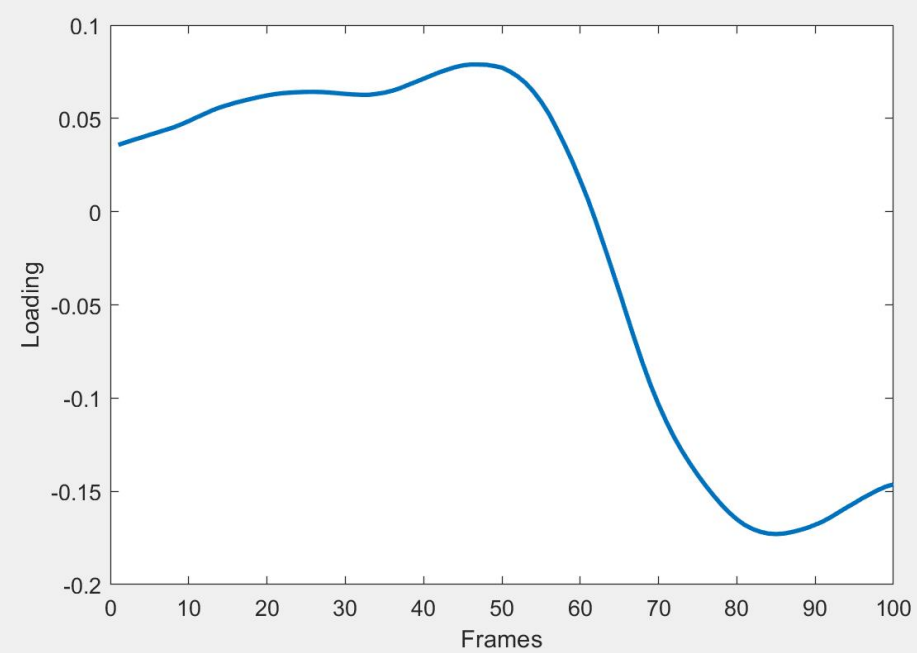
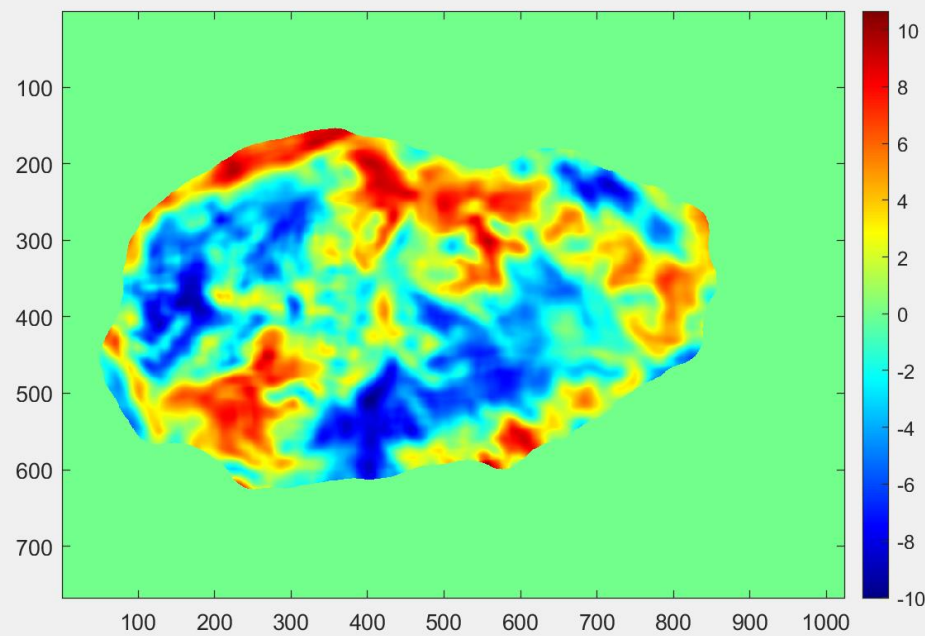
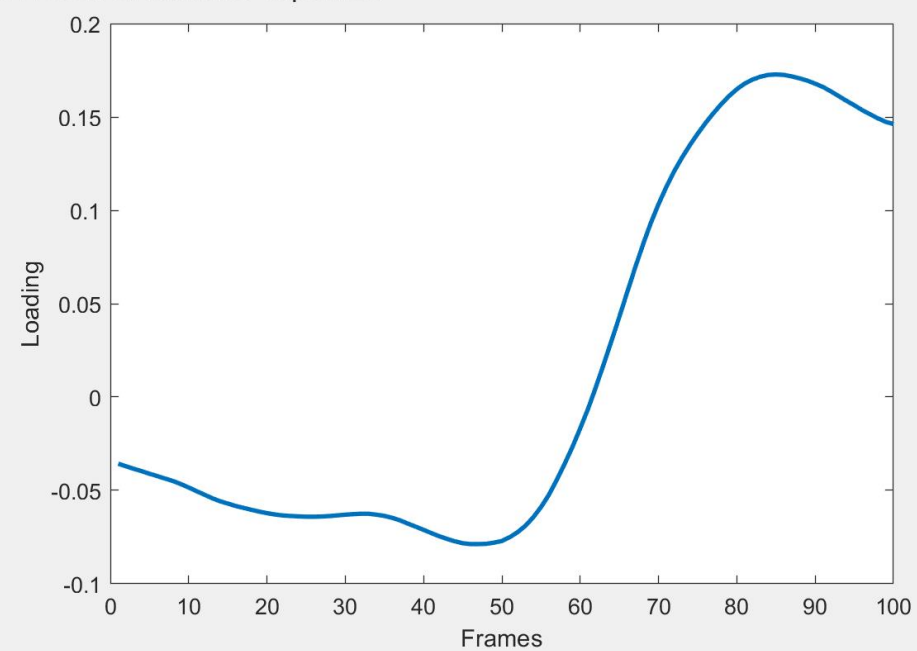
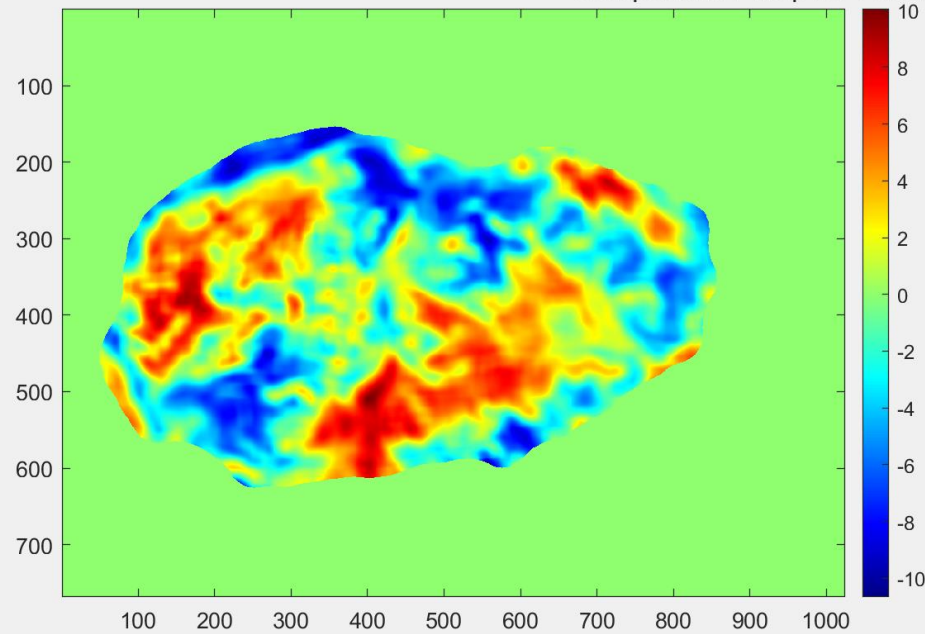


P1 (Lip Pursing) DES Key

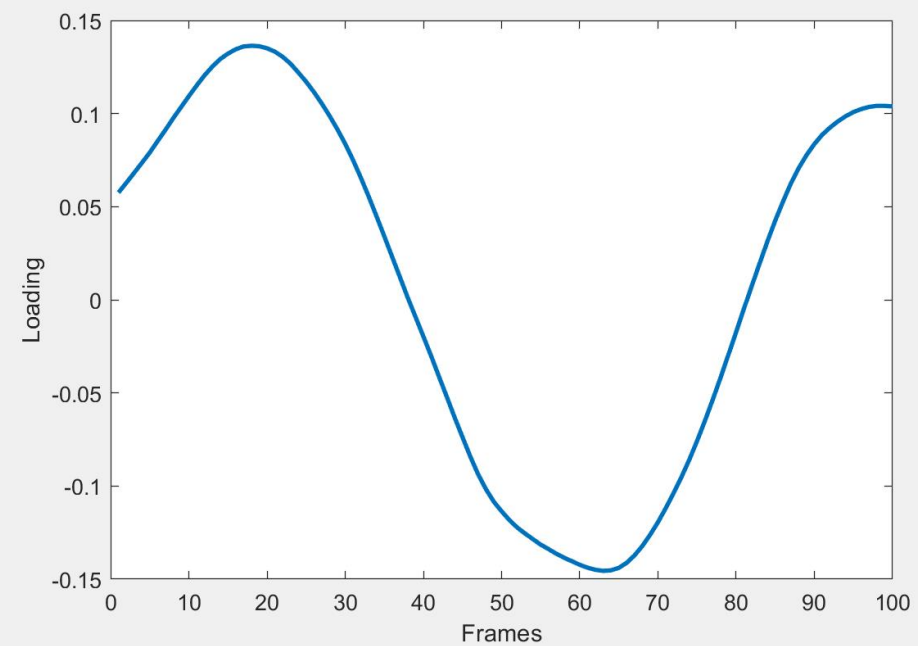
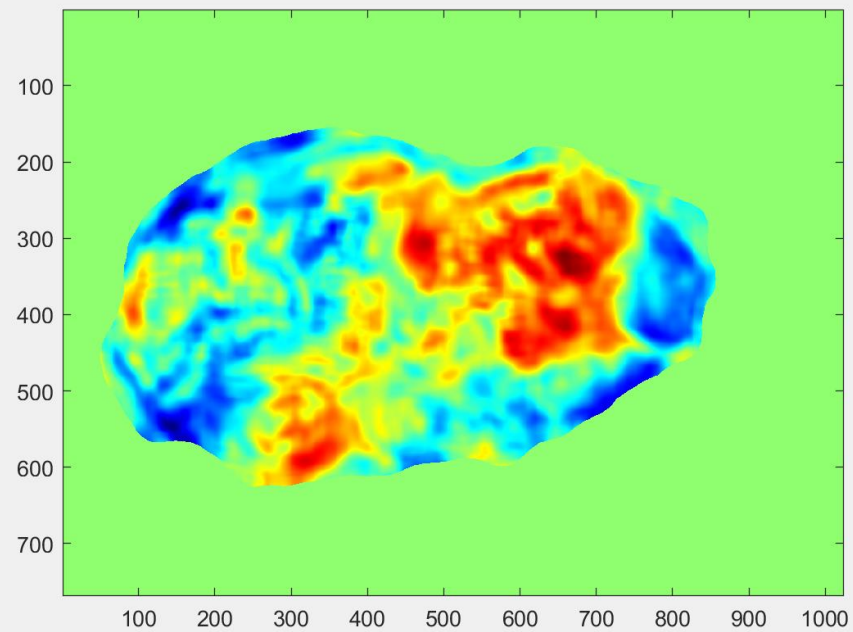
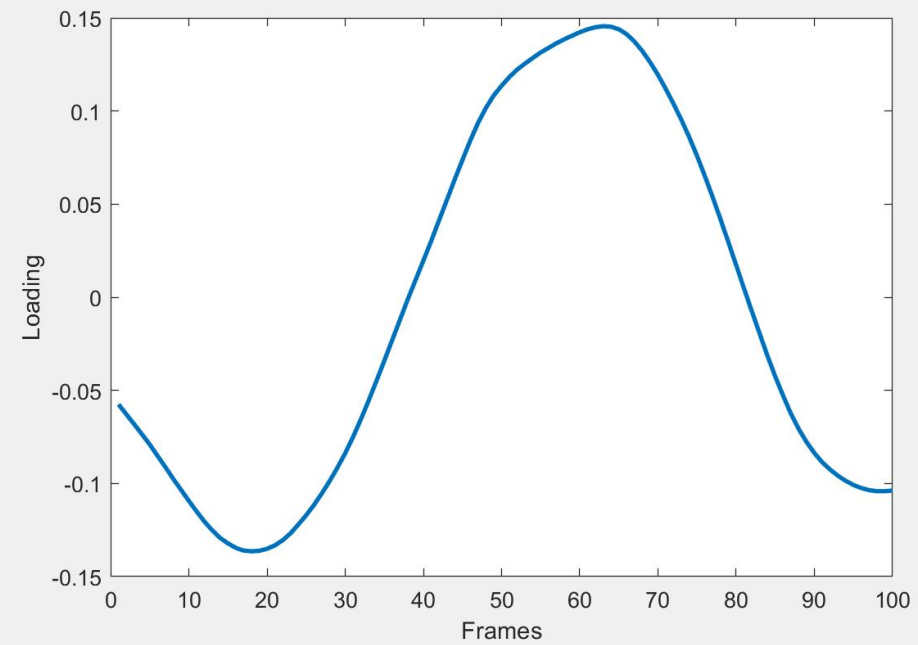
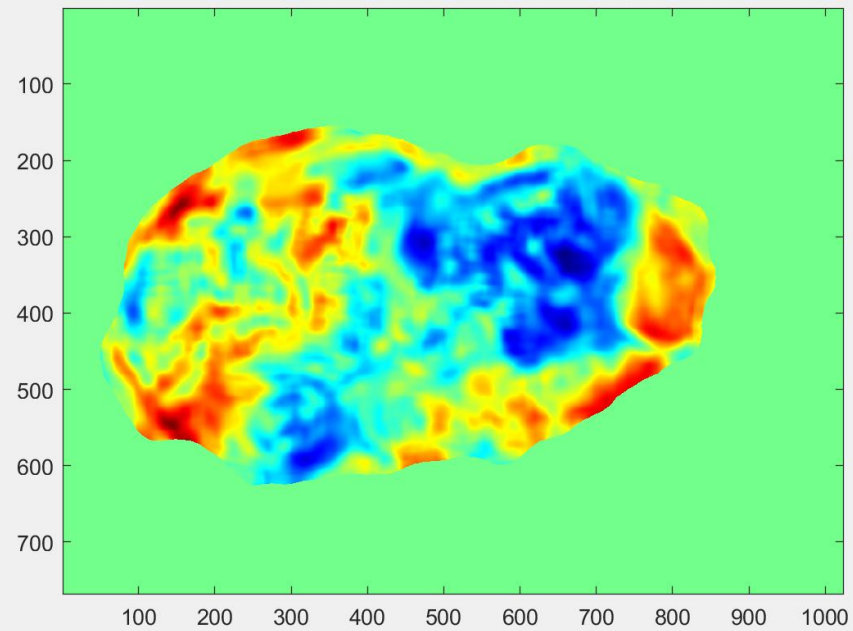
- A. Teeth, Sensory (right)
- B. Lips (right) tingling
- C. Teeth (right)
- D. Teeth, tongue (right)
- E. Lips (right)
- F. Speech arrest
- G. Speech arrest
- H. Anomia
- I. Anomia



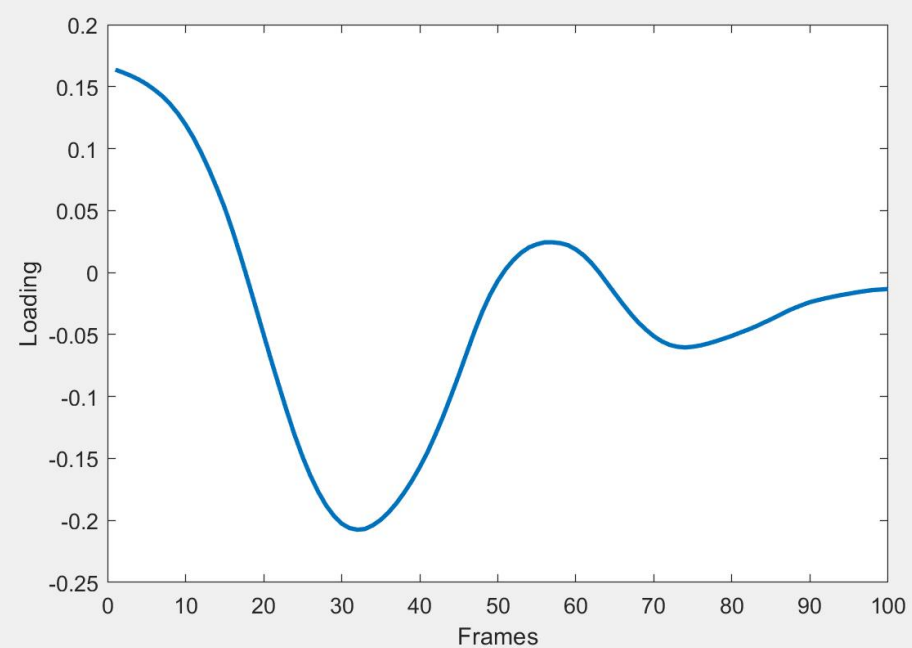
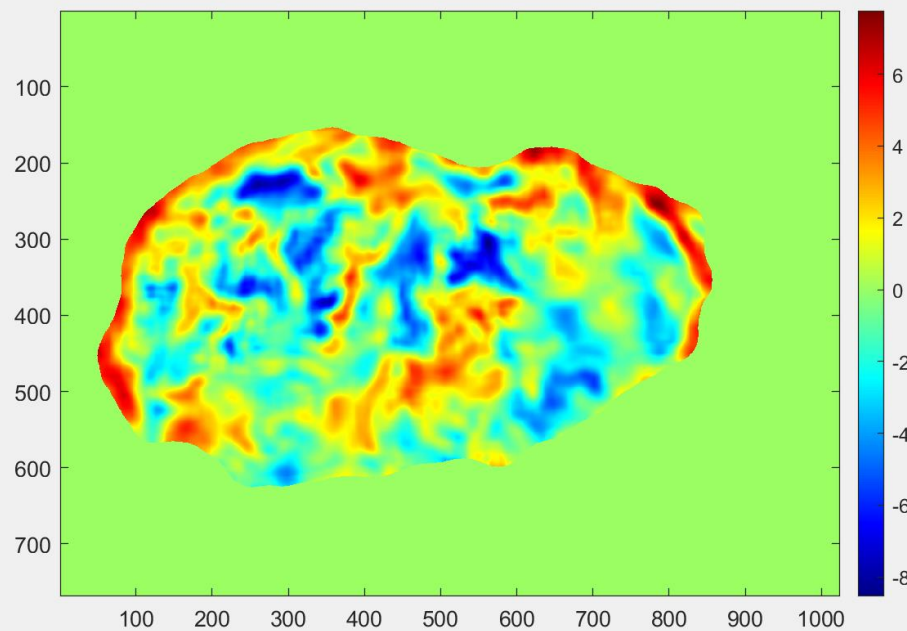
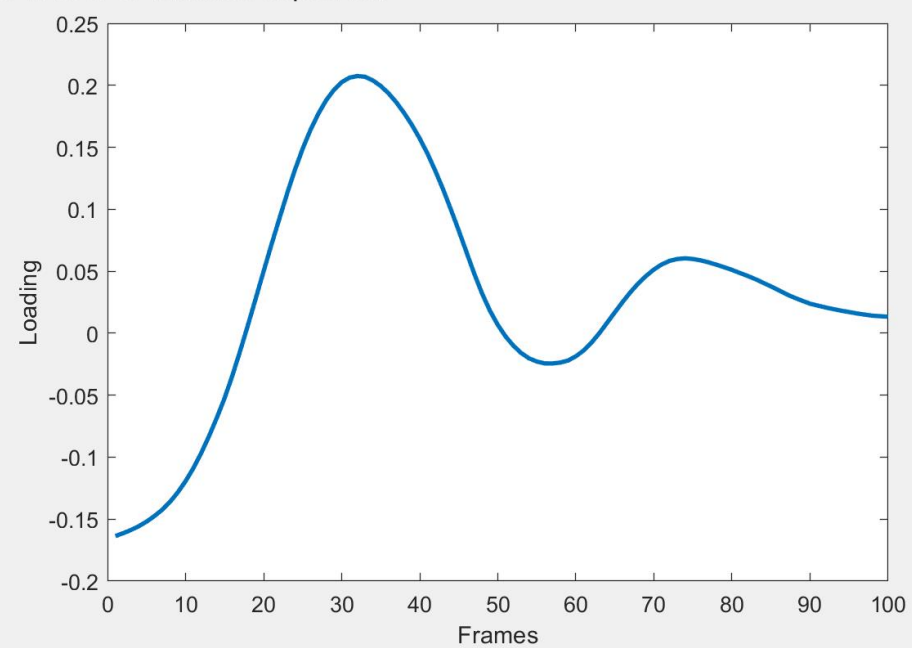
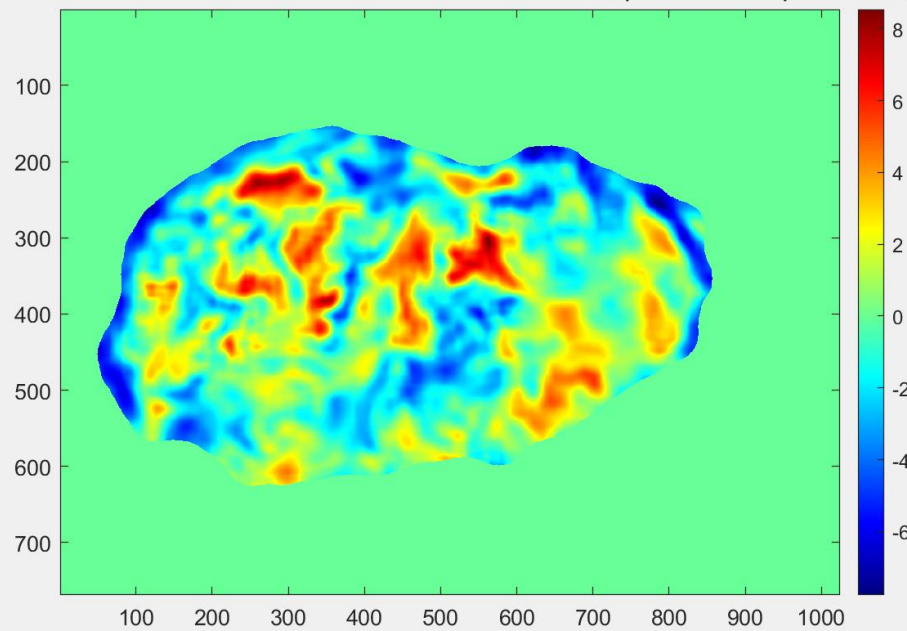
Component 1 Map for Patient 1: 33% of variance explained



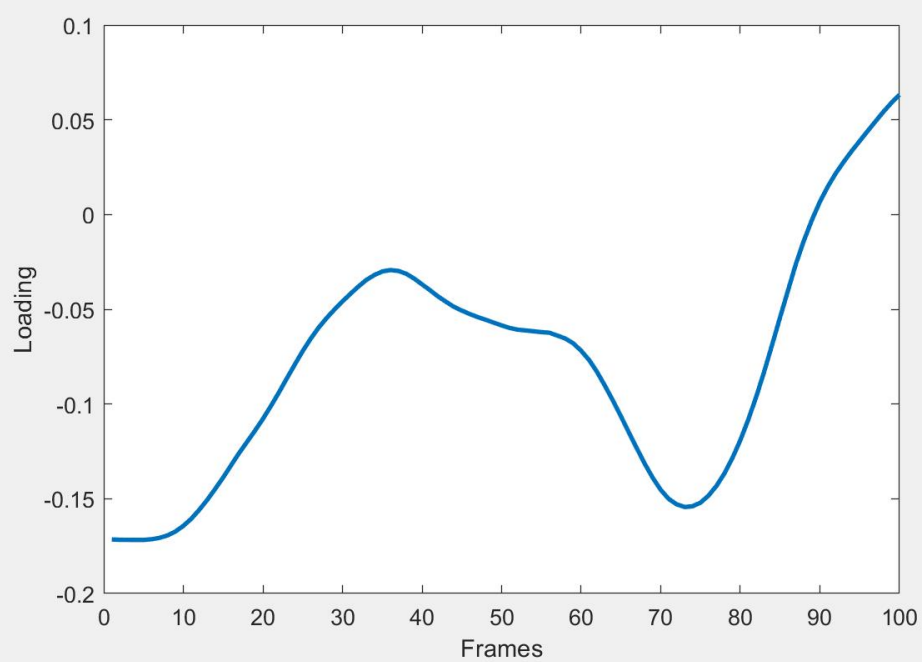
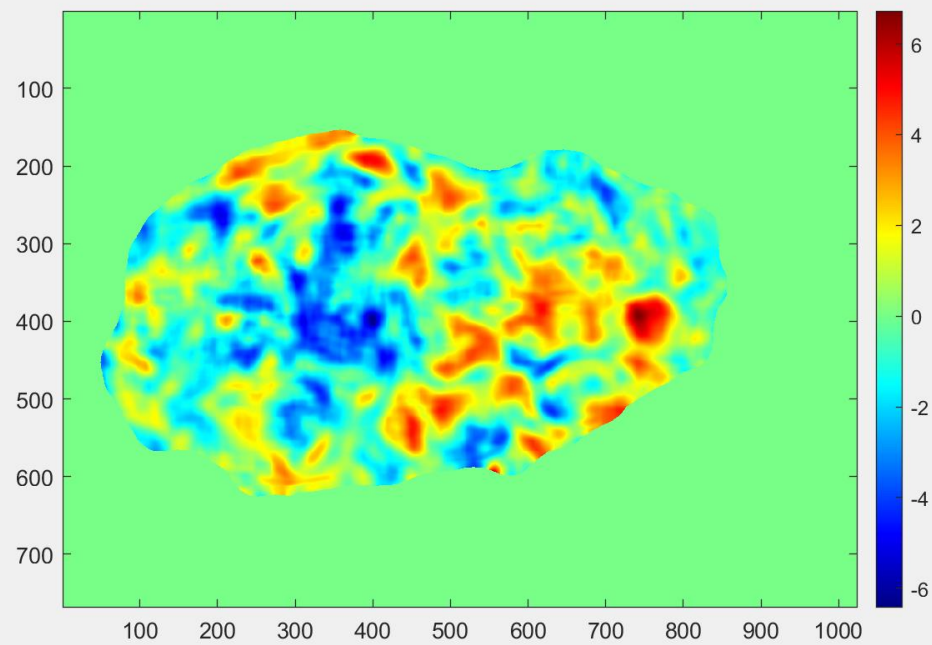
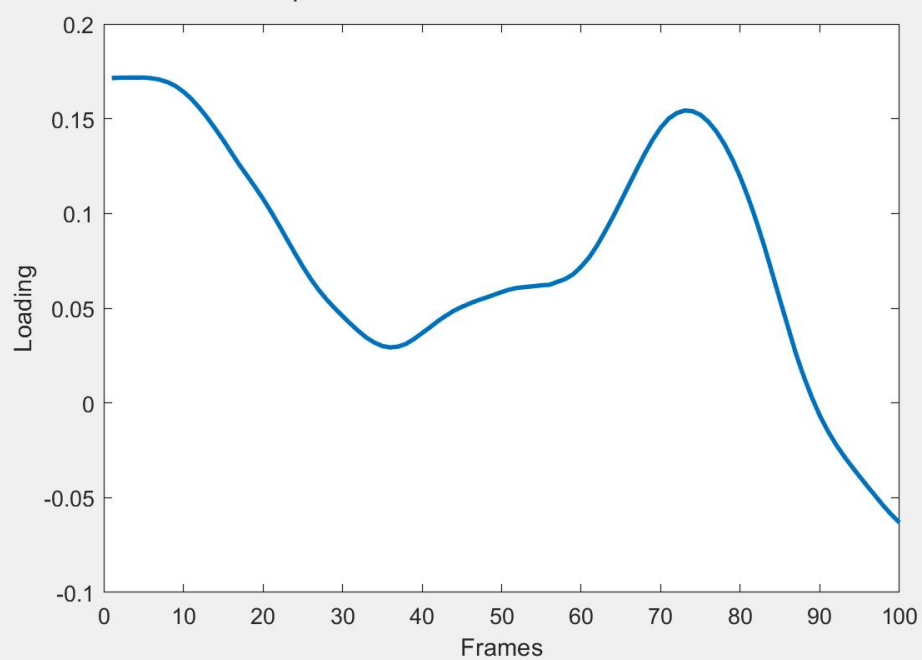
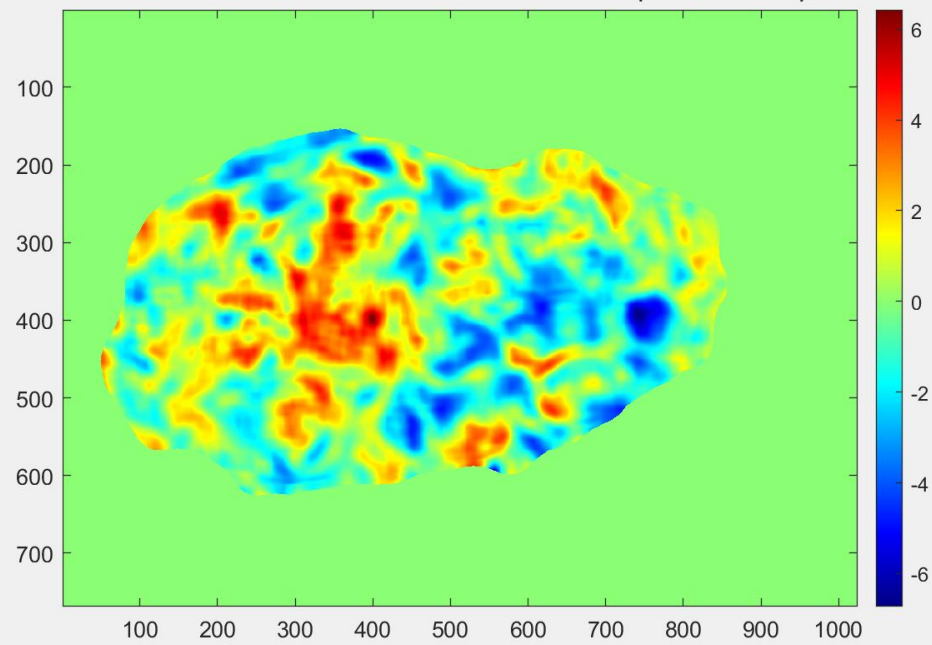
Component 2 Map for Patient 1: 23% of variance explained



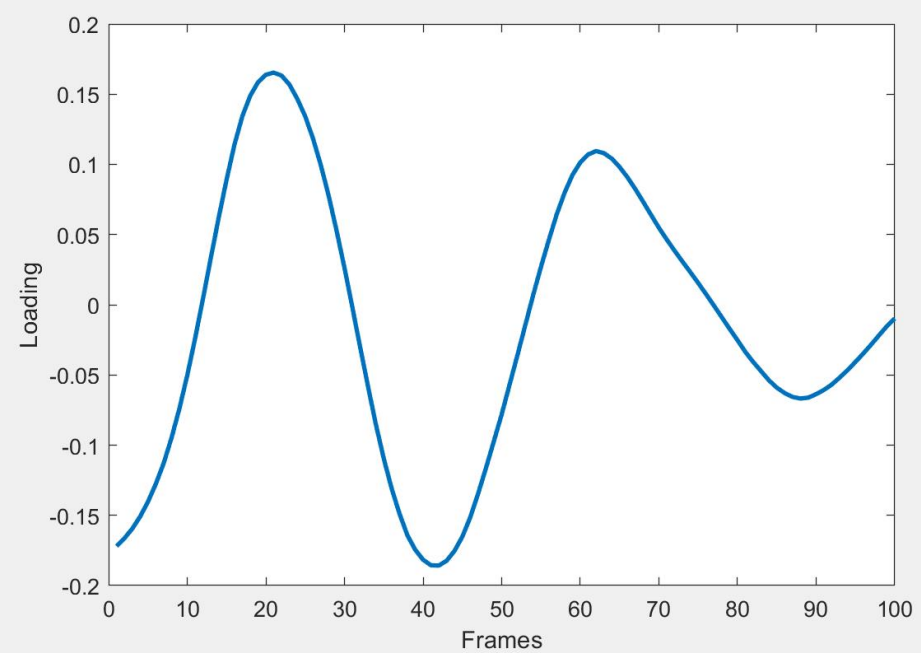
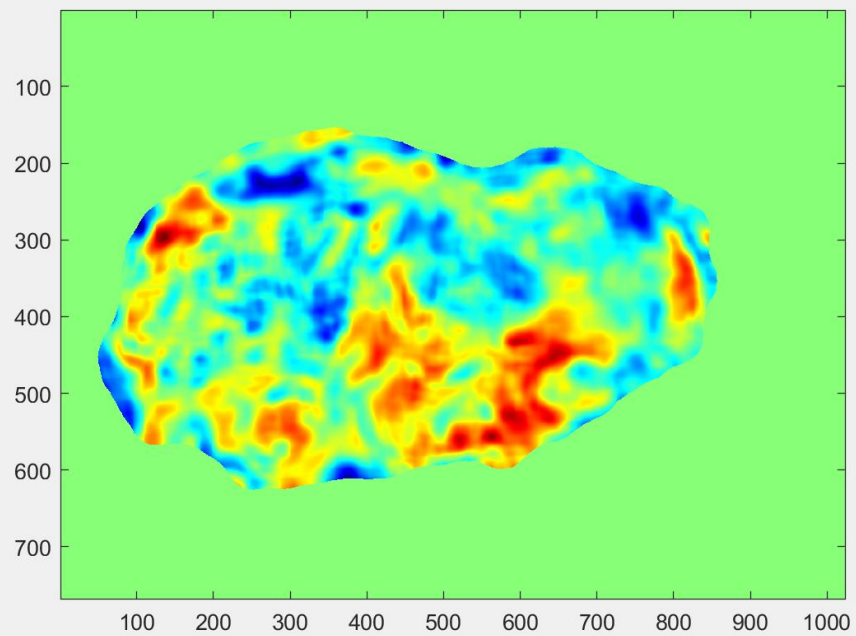
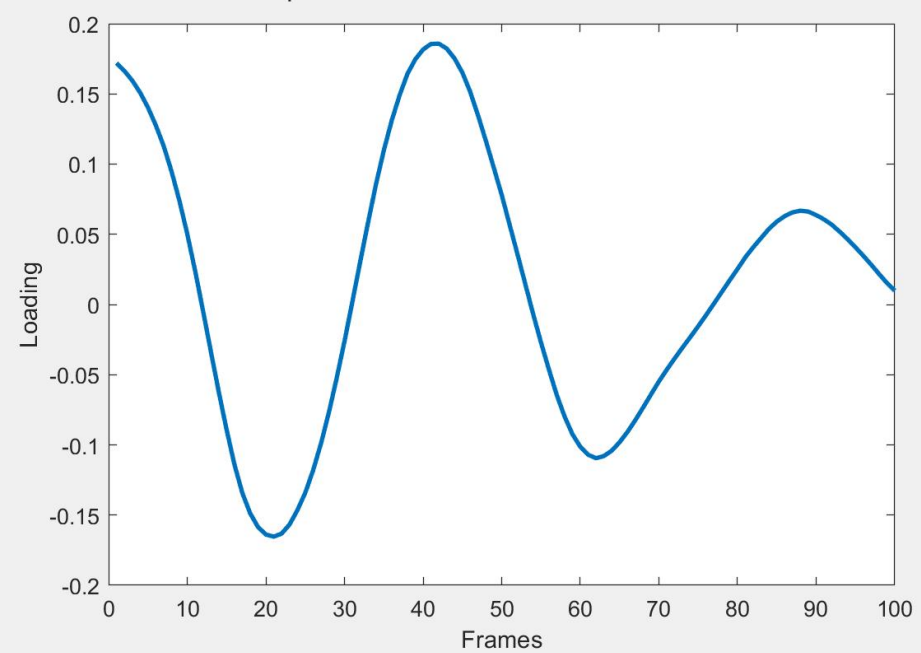
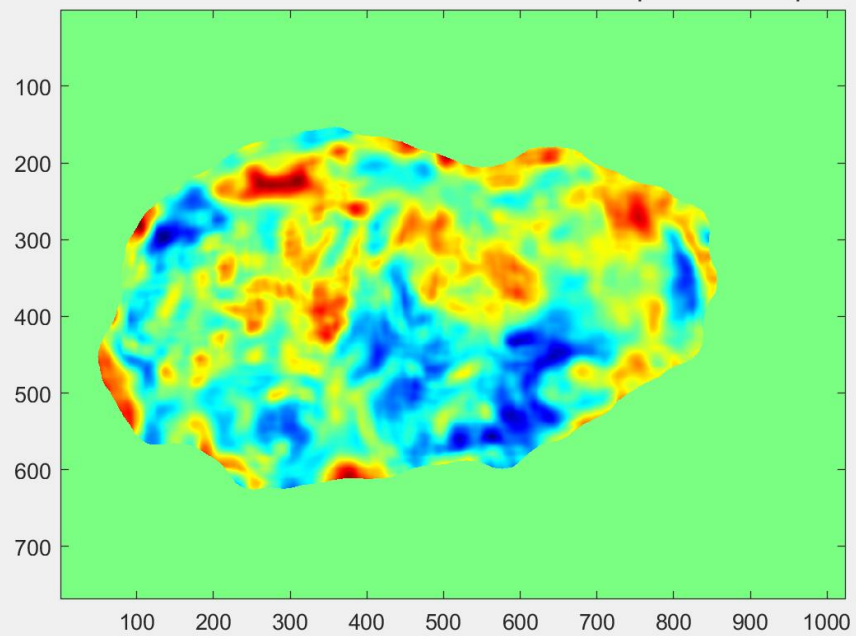
Component 3 Map for Patient 1: 16% of variance explained



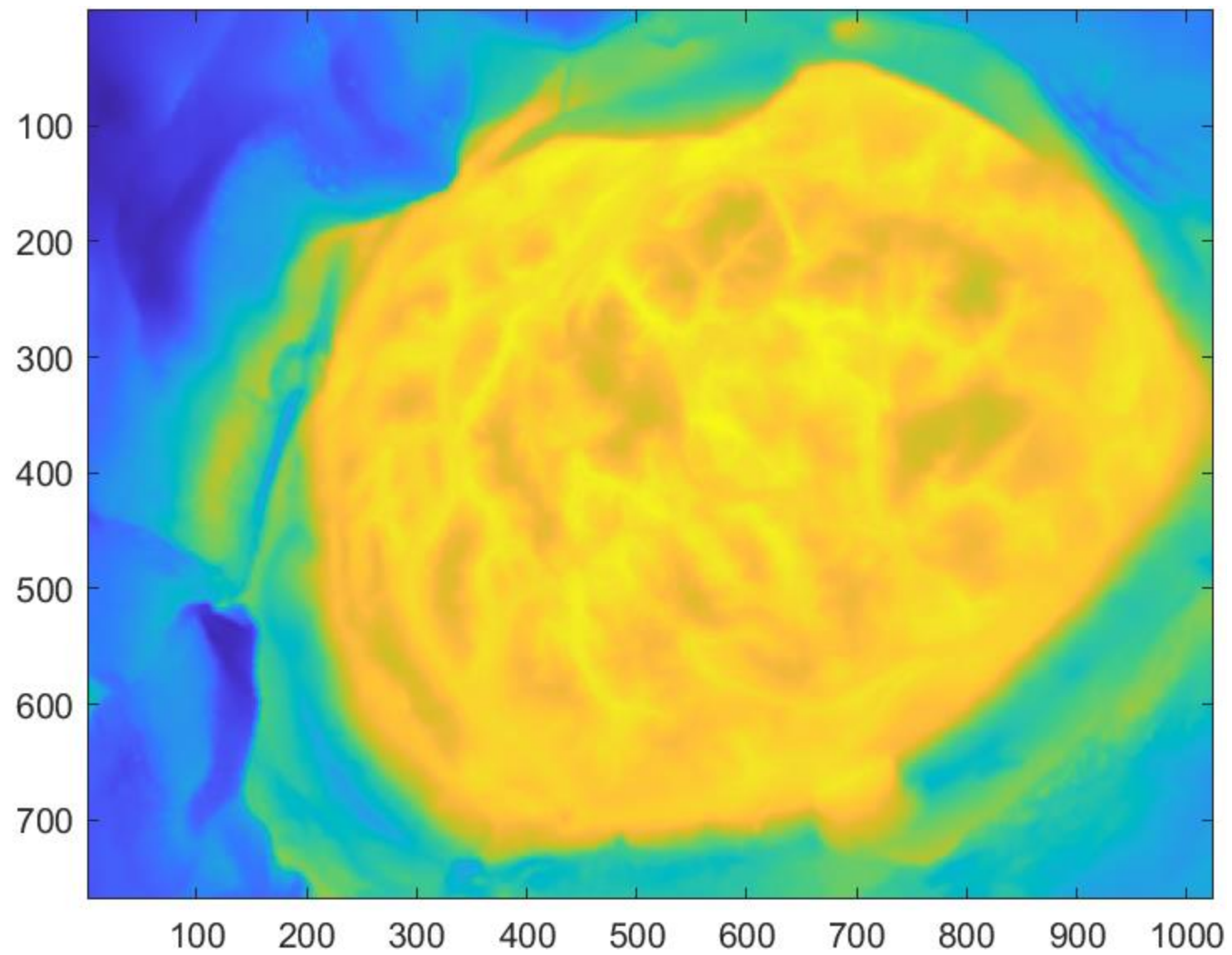
Component 4 Map for Patient 1: 10% of variance explained



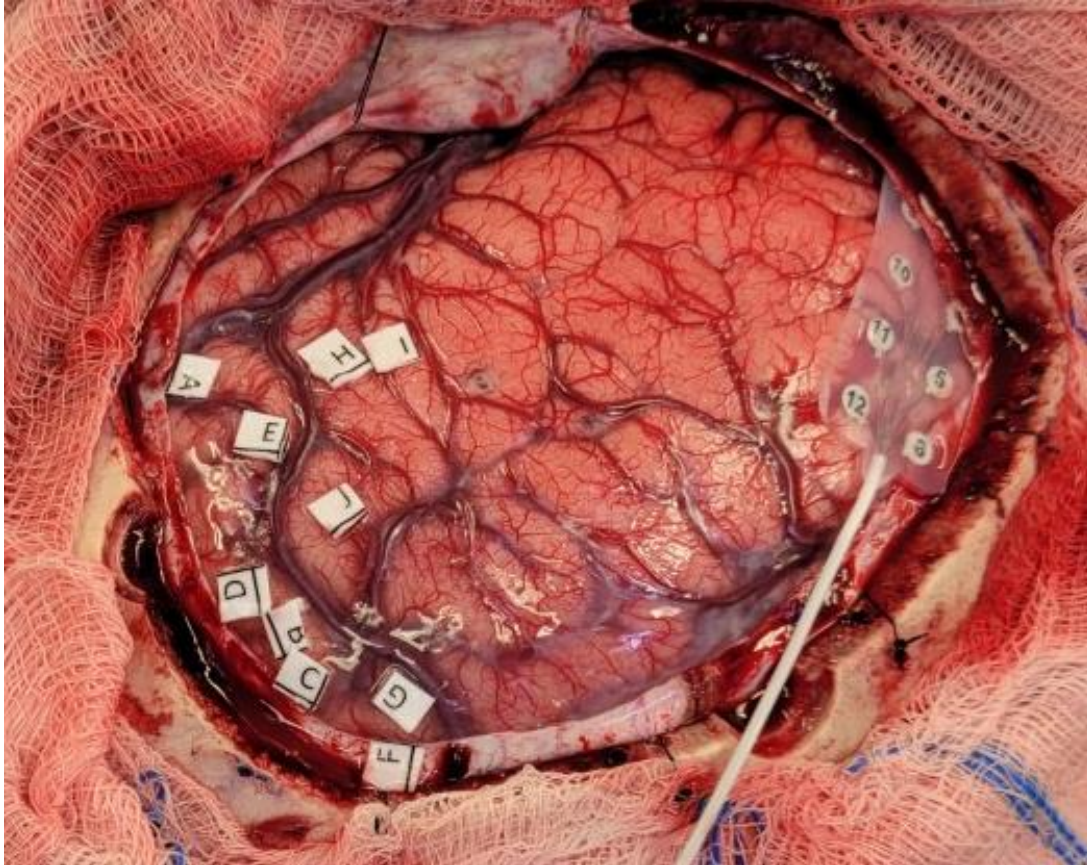
Component 5 Map for Patient 1: 6% of variance explained



Patient 2: Lip Pursing



P2 (Lip Pursing) DES Key



A – Tongue tingling all over

B – Thumb sensory

C – Right hand sensory (3 & 4)

D – Thumb tingling

E – Tongue tingling & movement

F – Wrist flexion

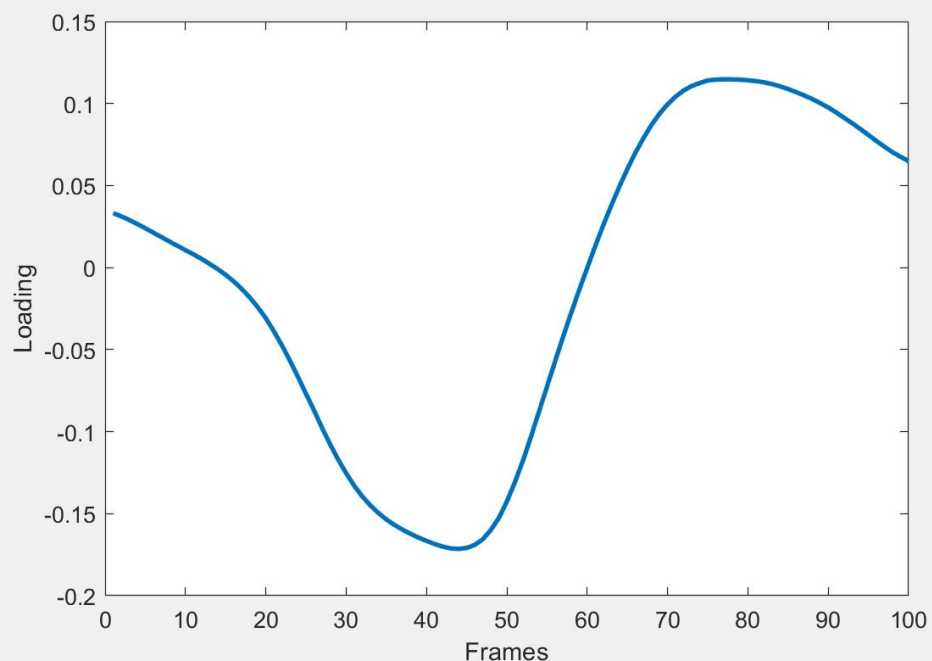
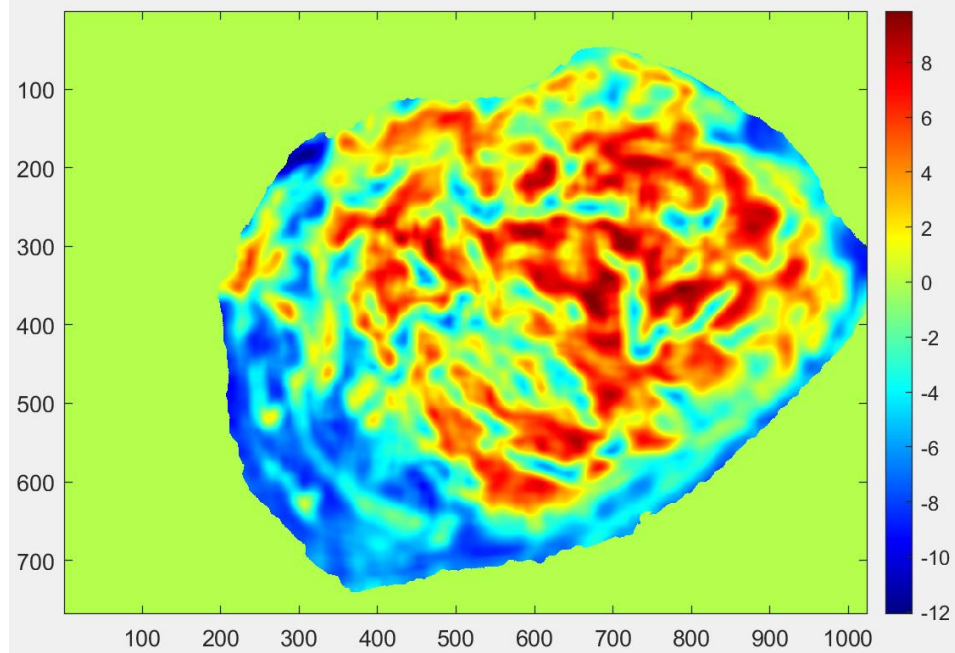
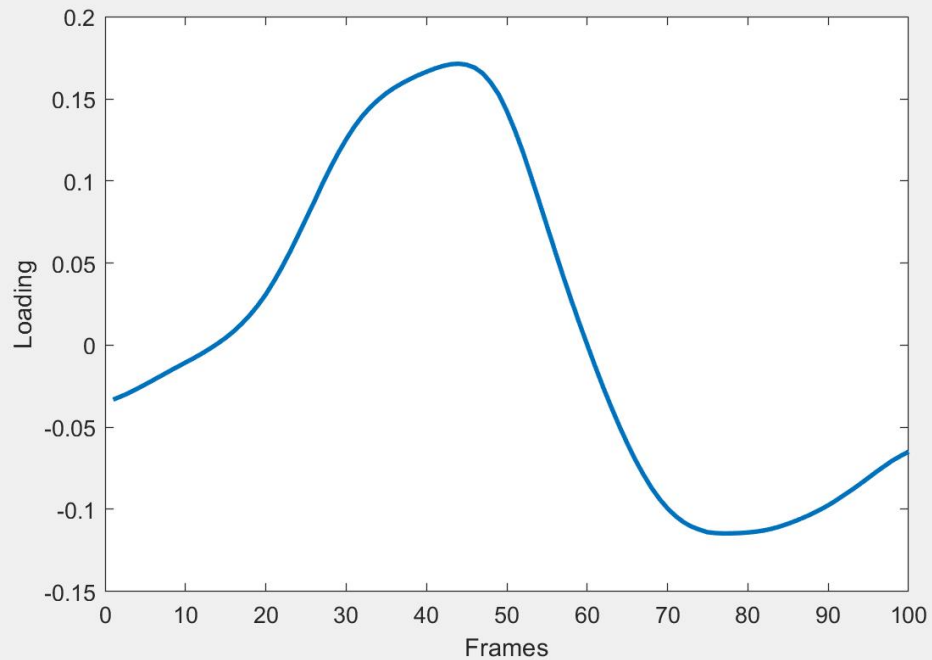
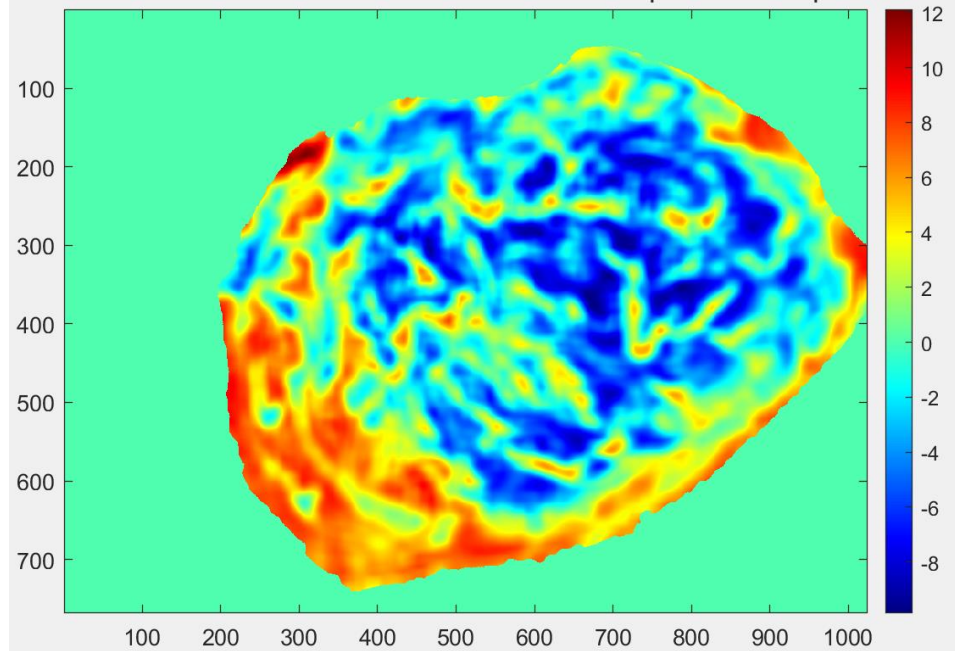
G – Thumb movement

H – Hesitation

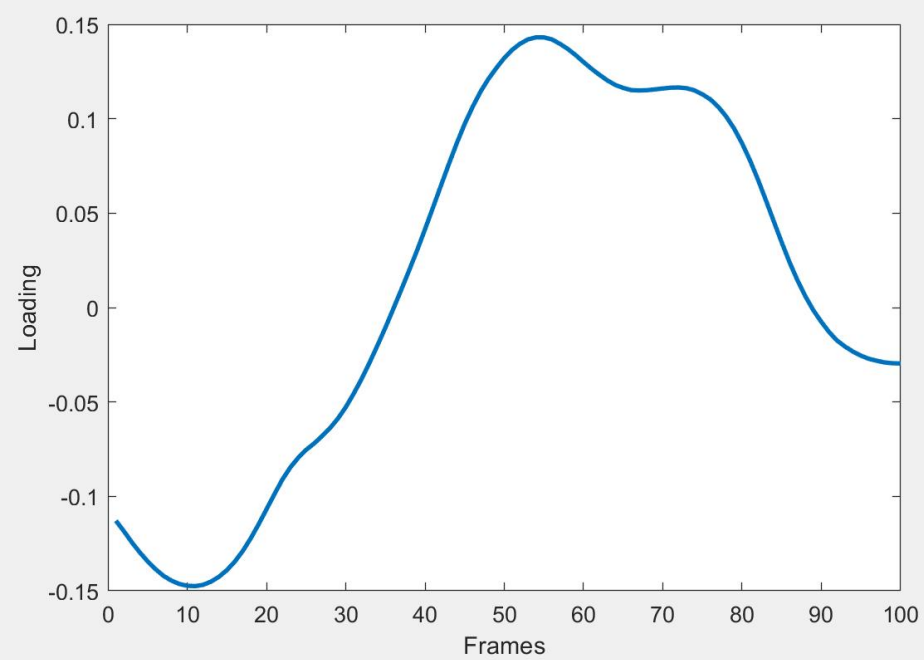
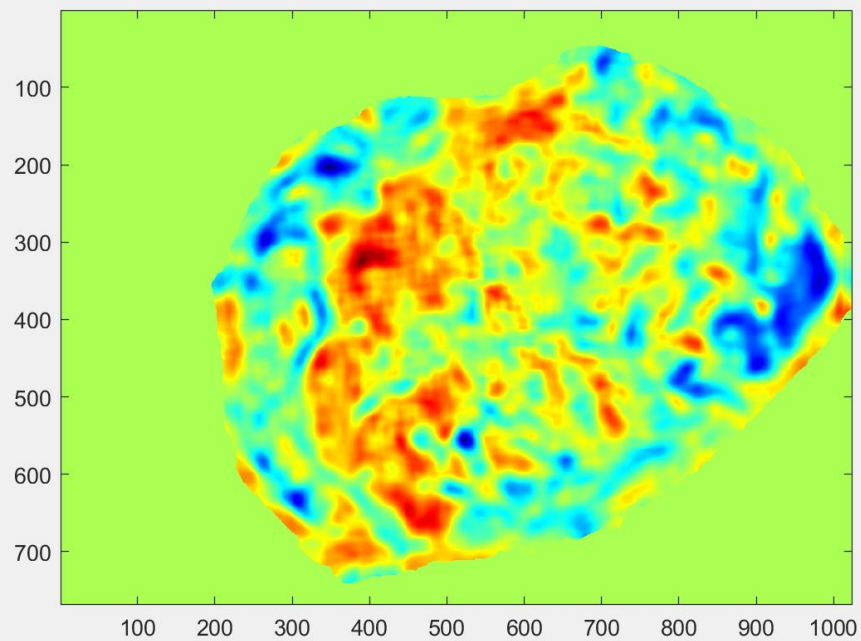
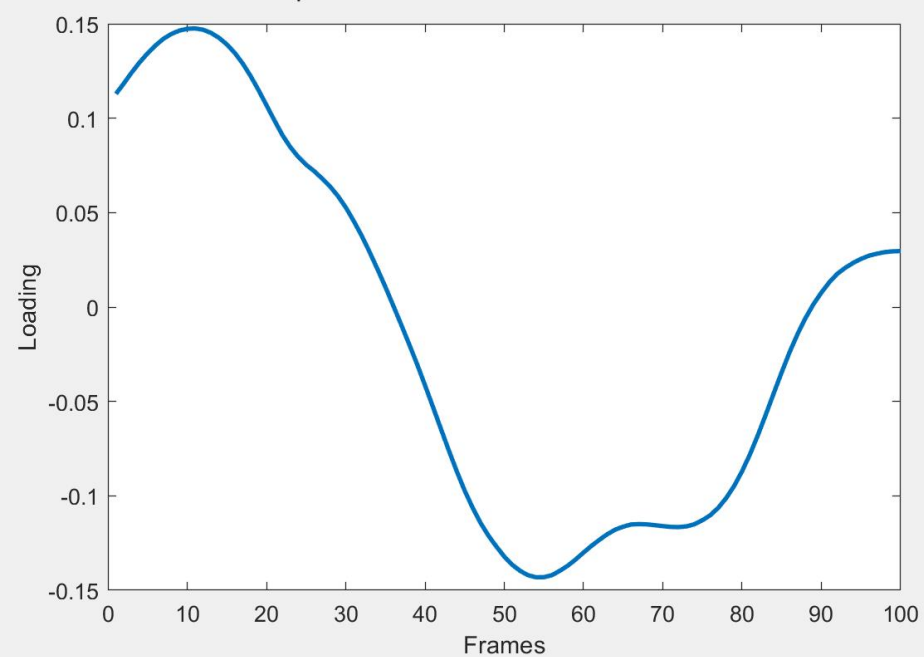
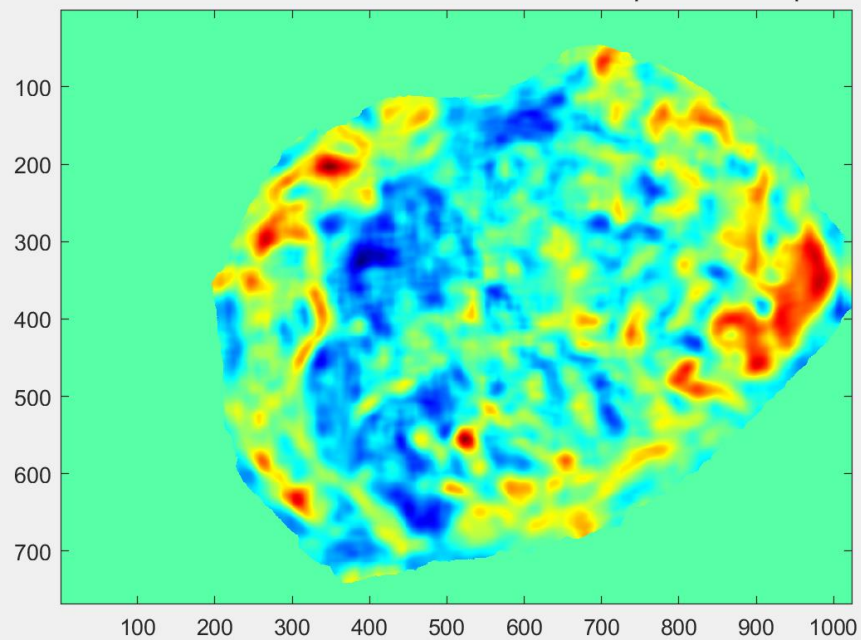
I – Hesitation

J – Dysarthria

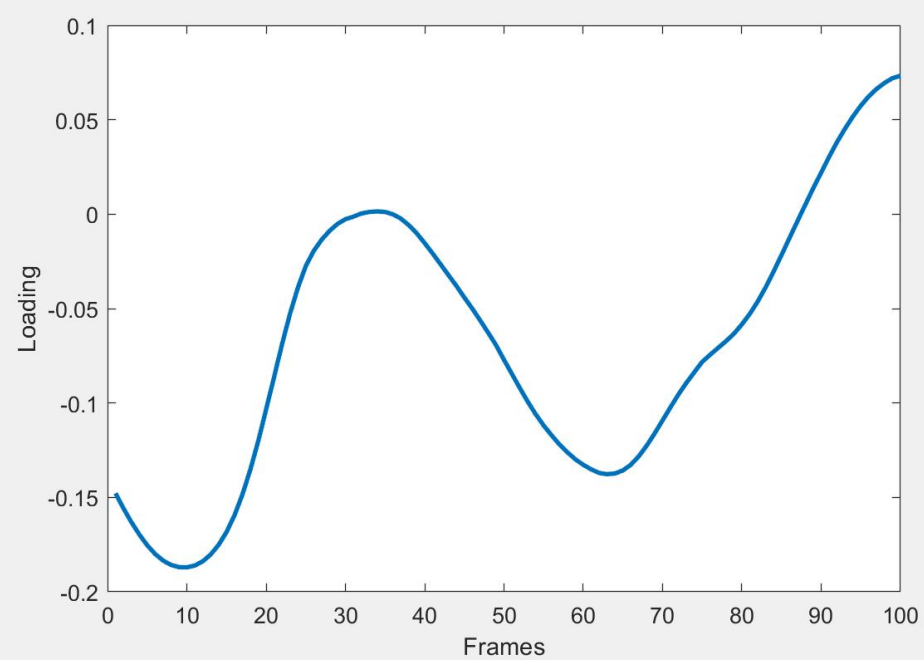
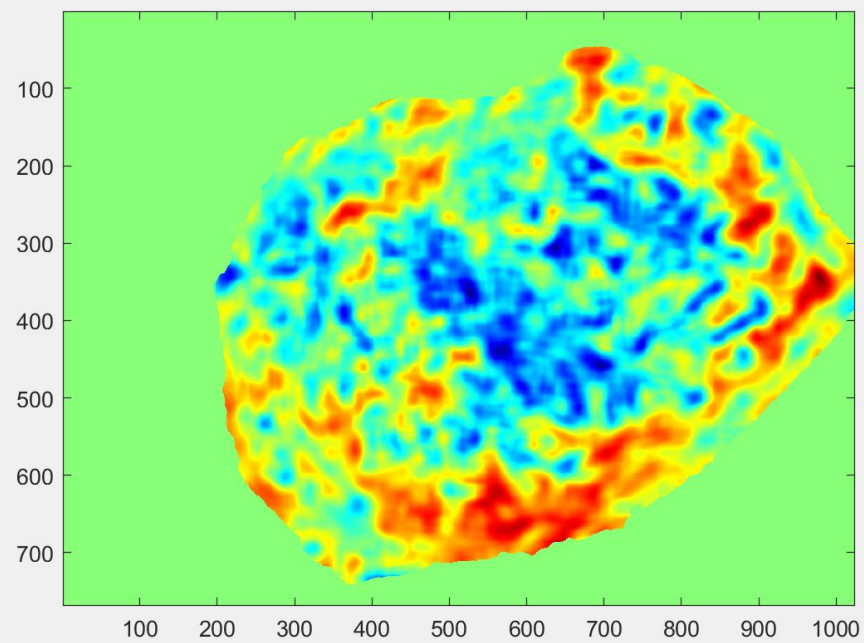
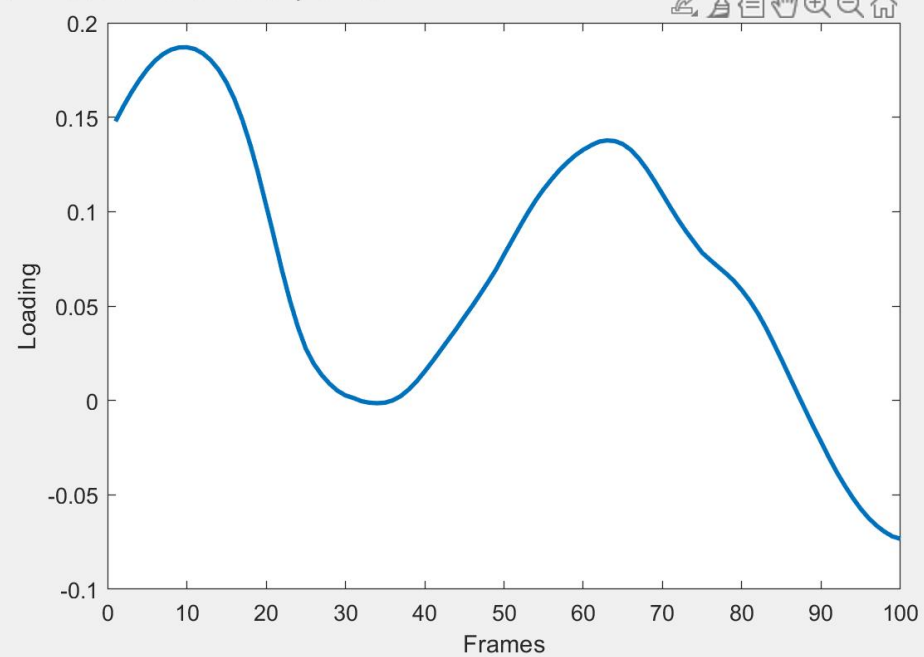
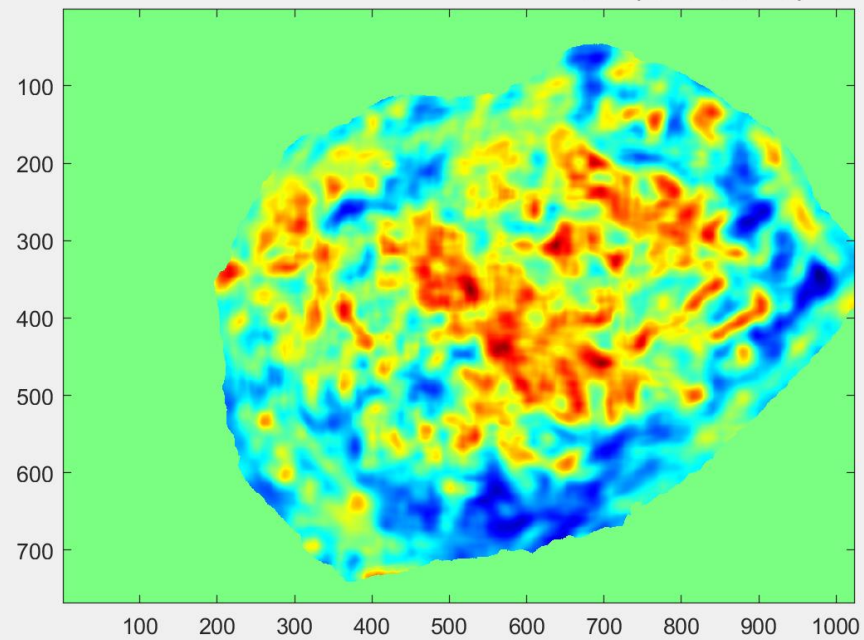
Component 1 Map for Patient 1: 42% of variance explained



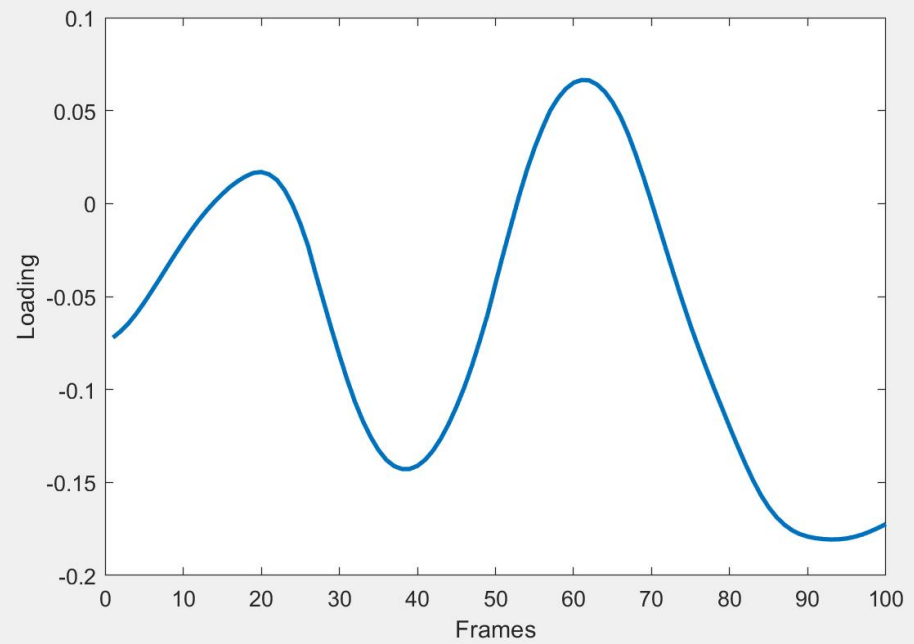
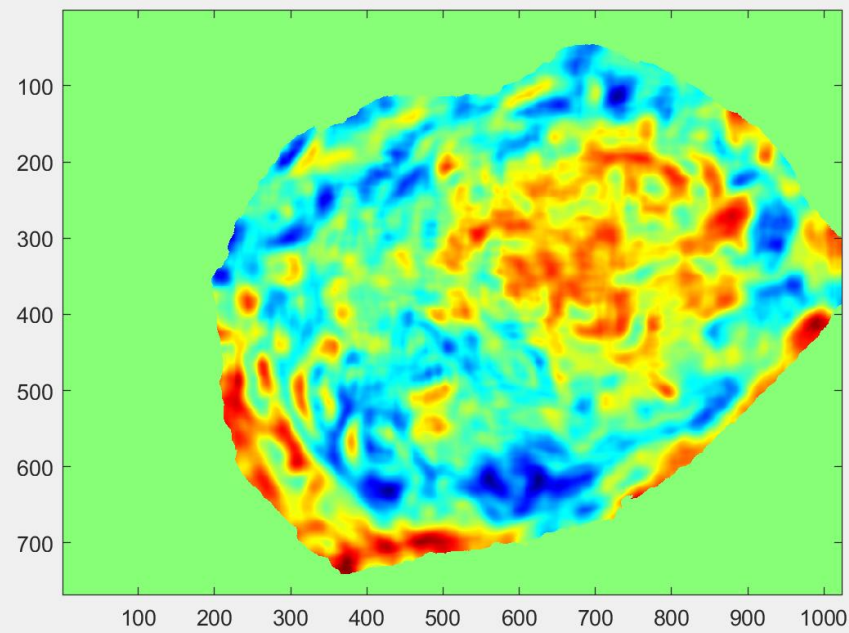
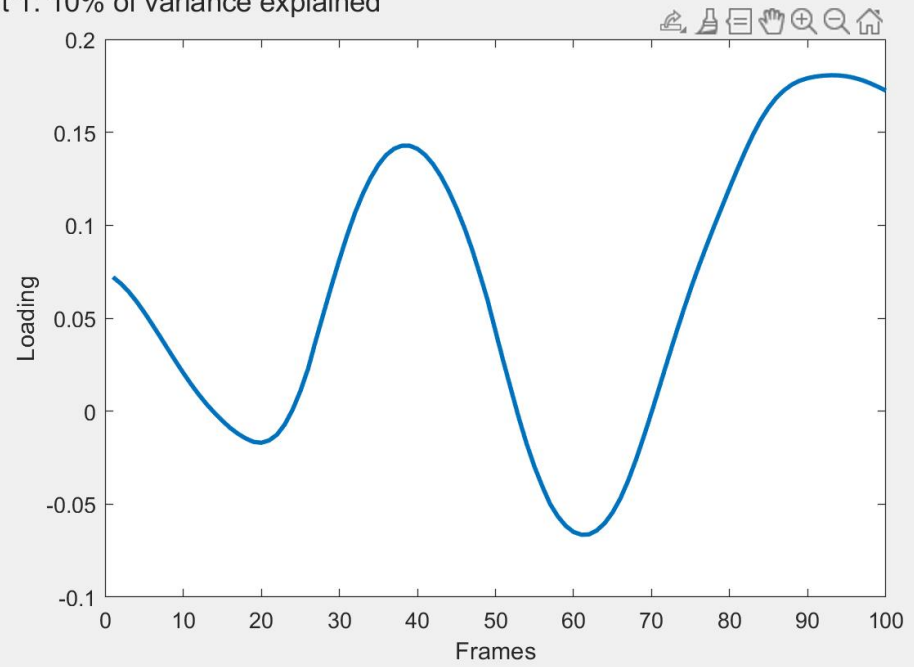
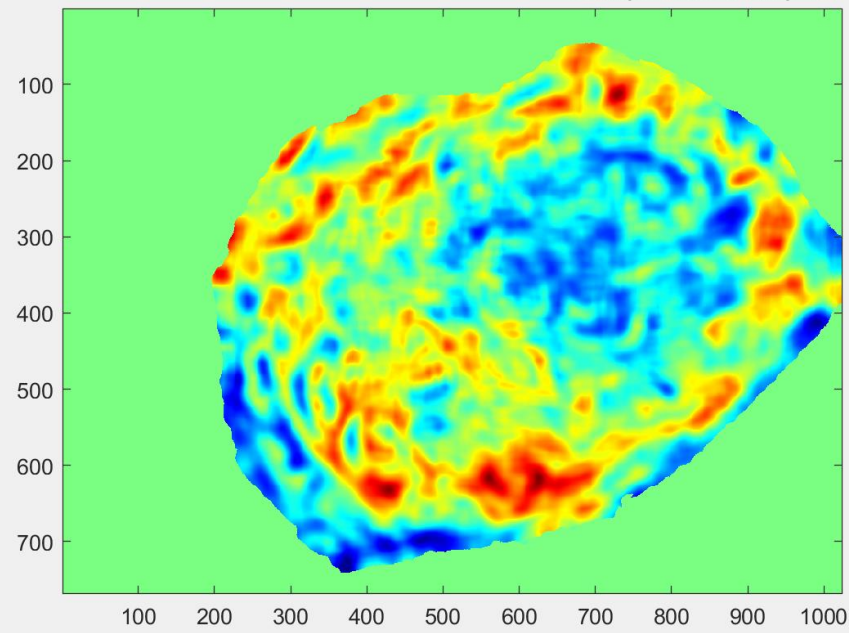
Component 2 Map for Patient 1: 16% of variance explained



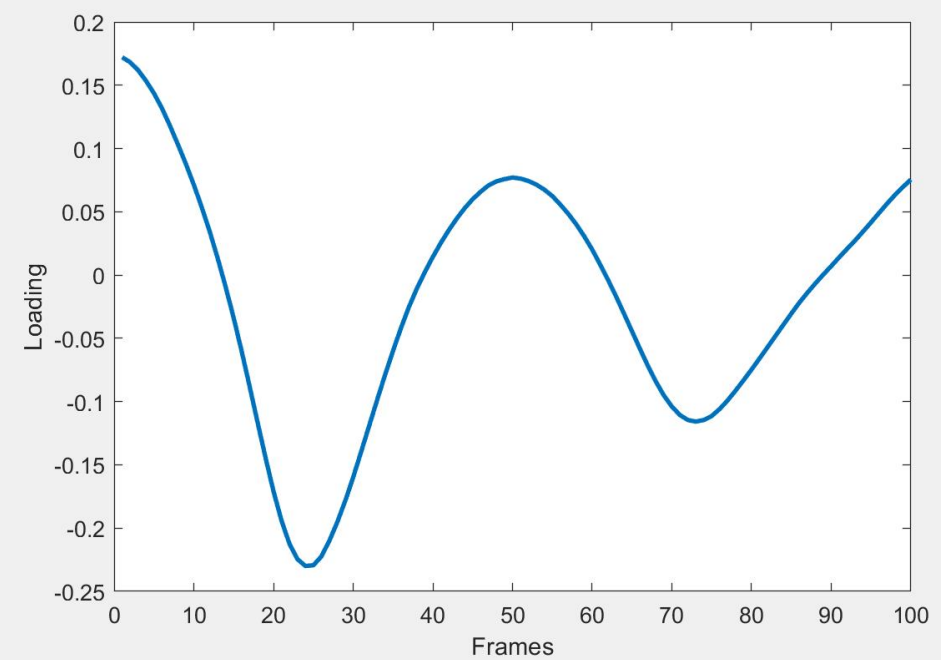
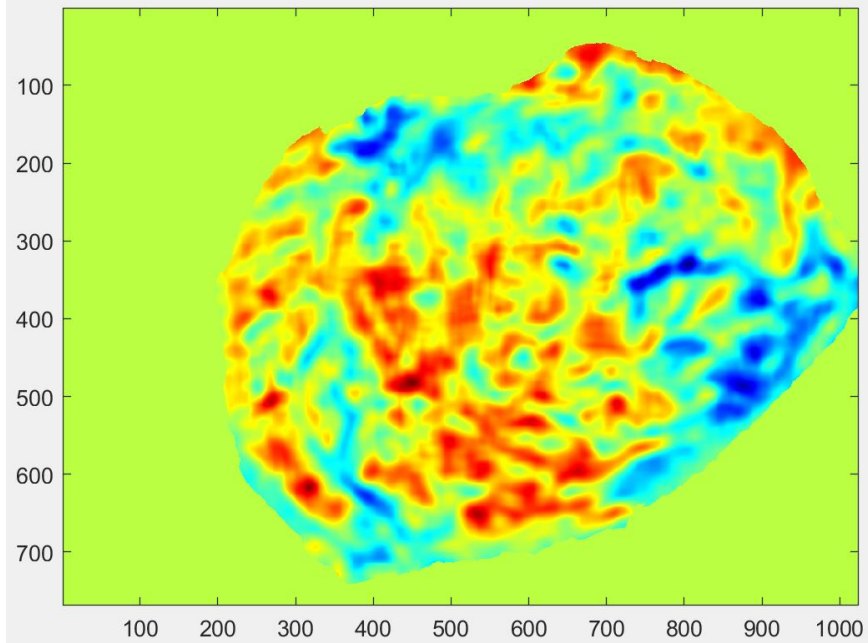
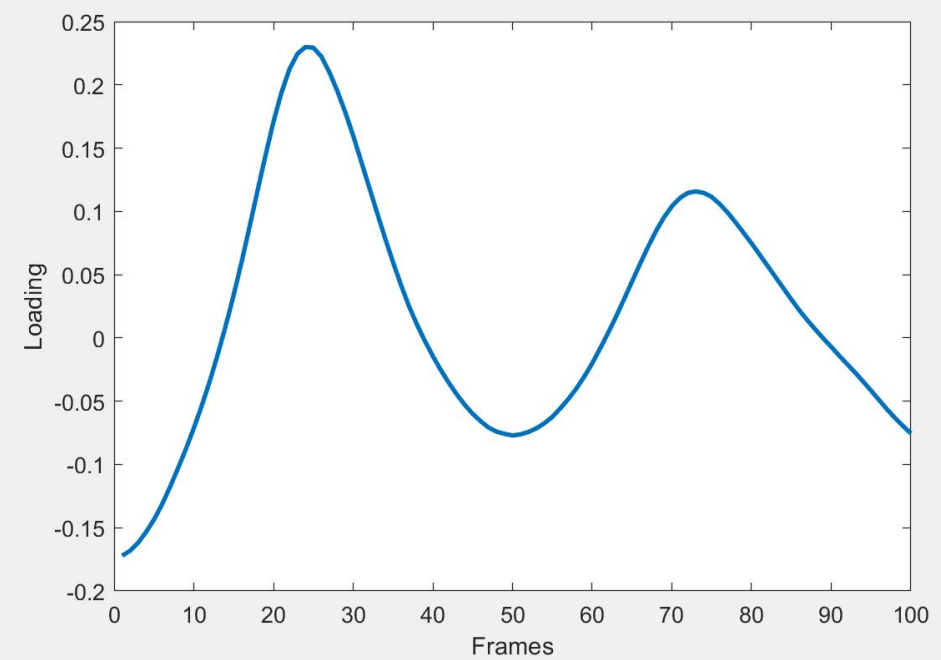
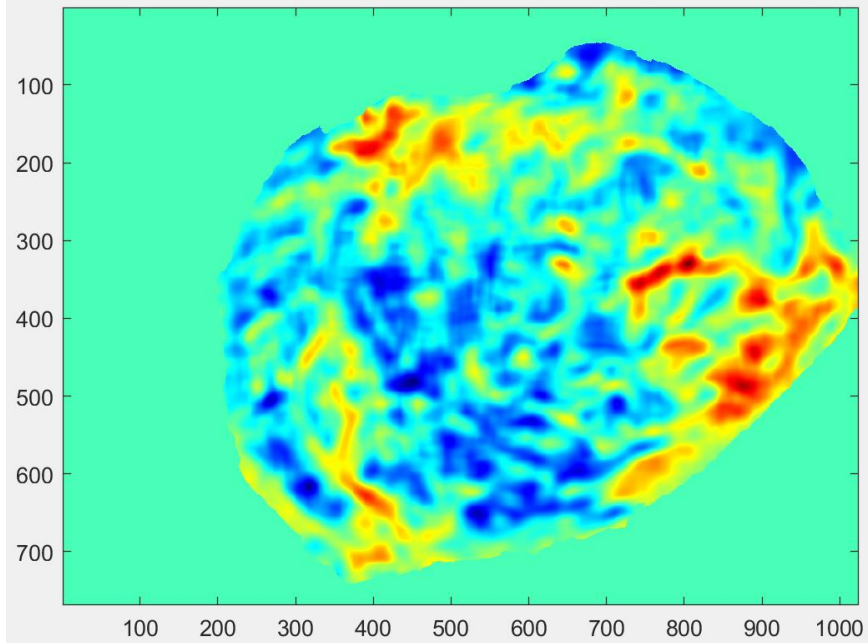
Component 3 Map for Patient 1: 13% of variance explained



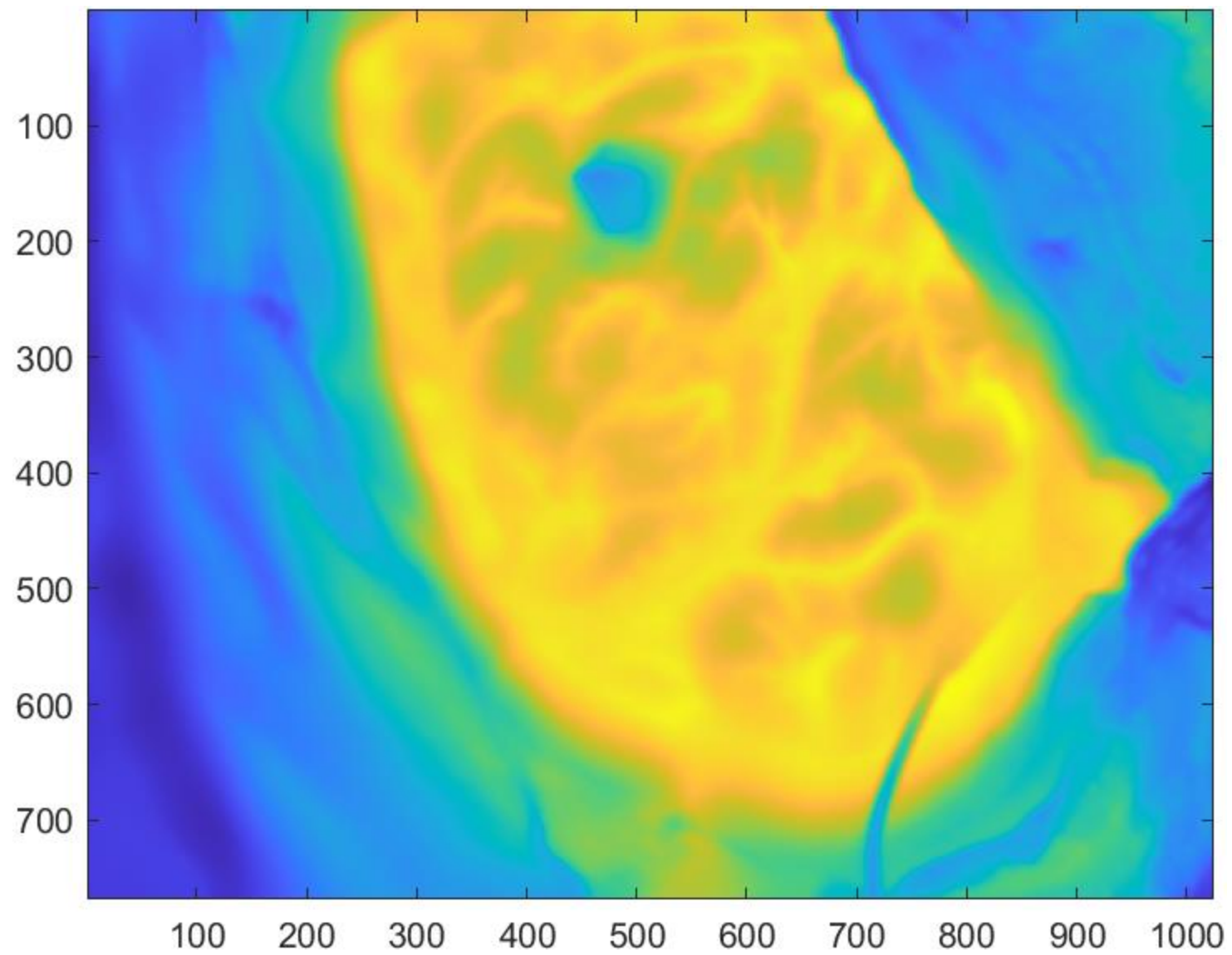
Component 4 Map for Patient 1: 10% of variance explained



Component 5 Map for Patient 1: 8% of variance explained

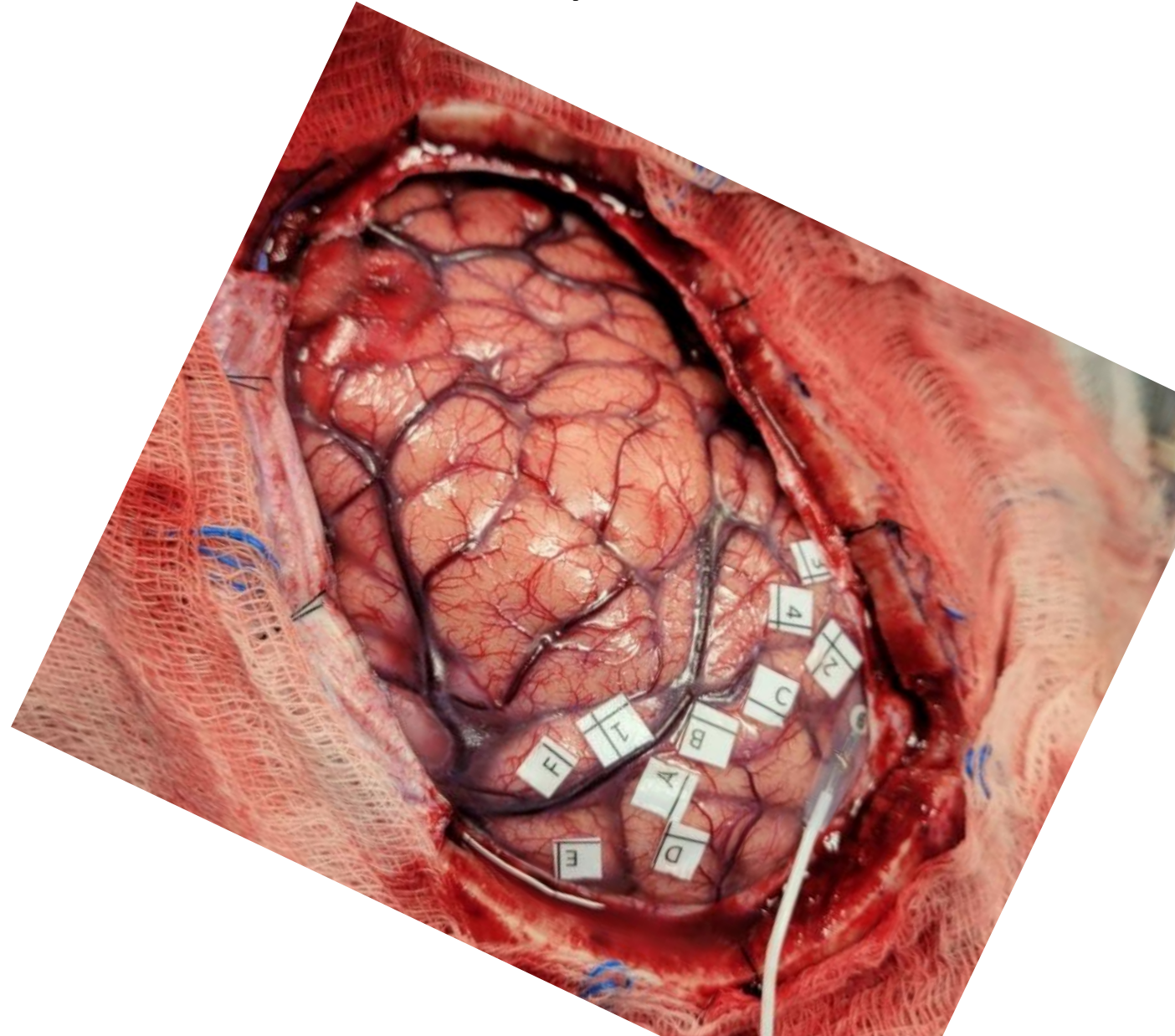


Patient 3: Hand Motor

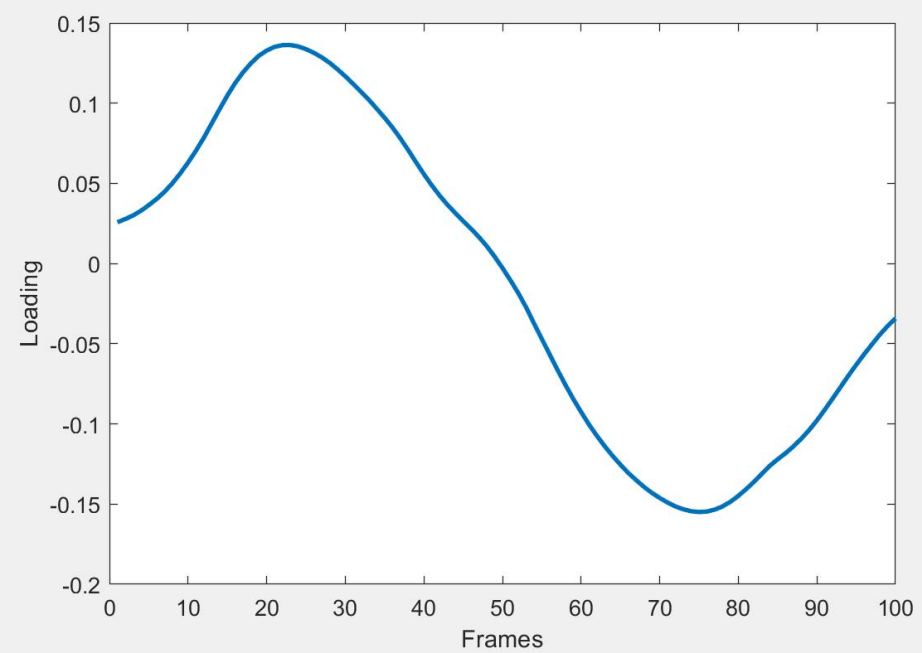
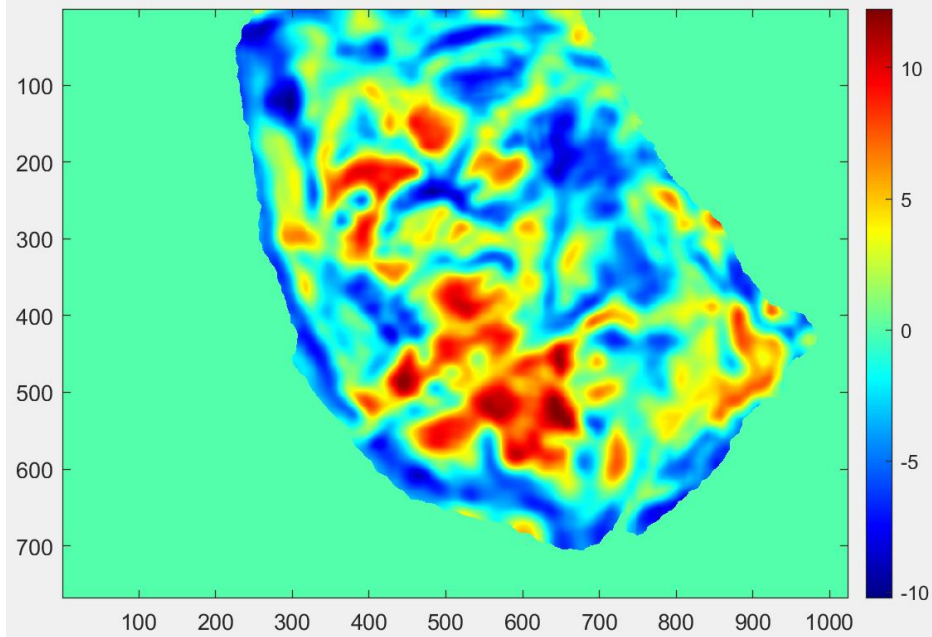
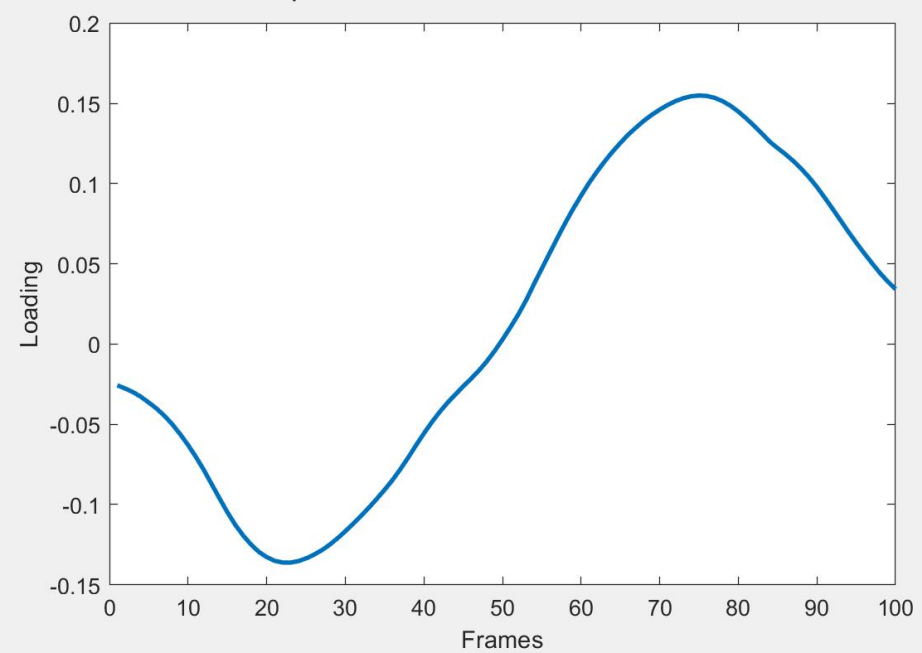
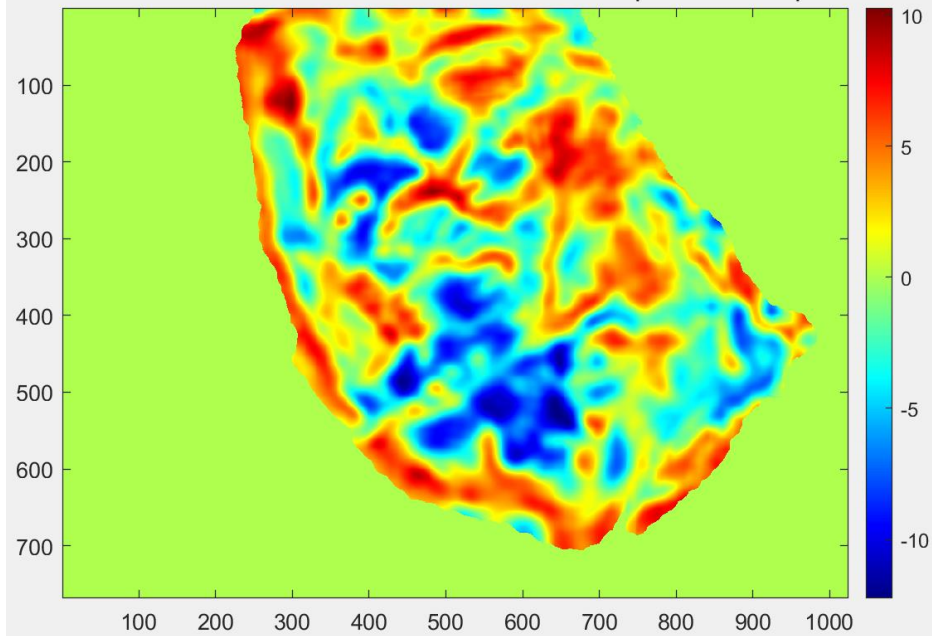


P3 (Hand Motor) DES Key

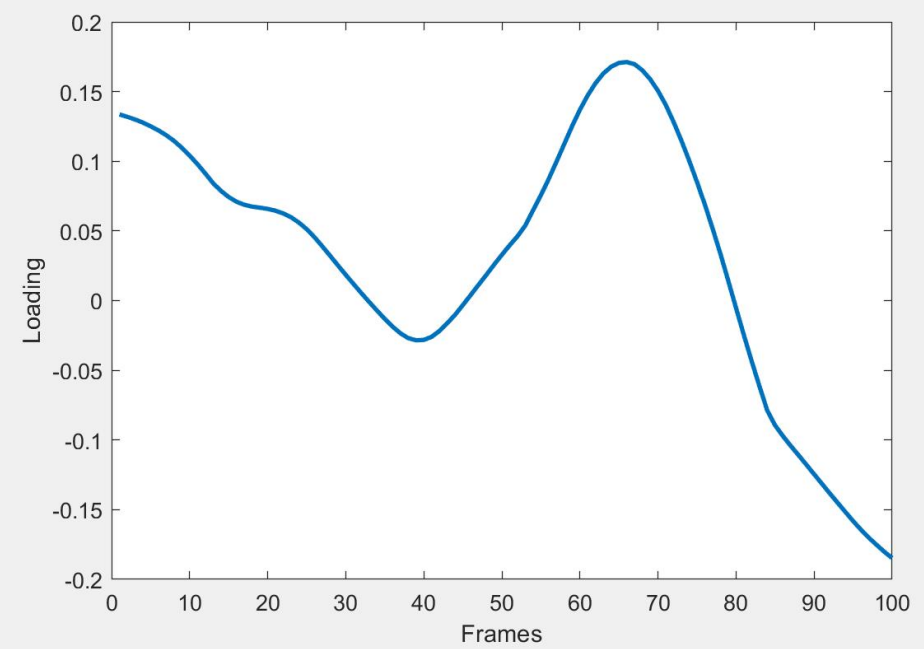
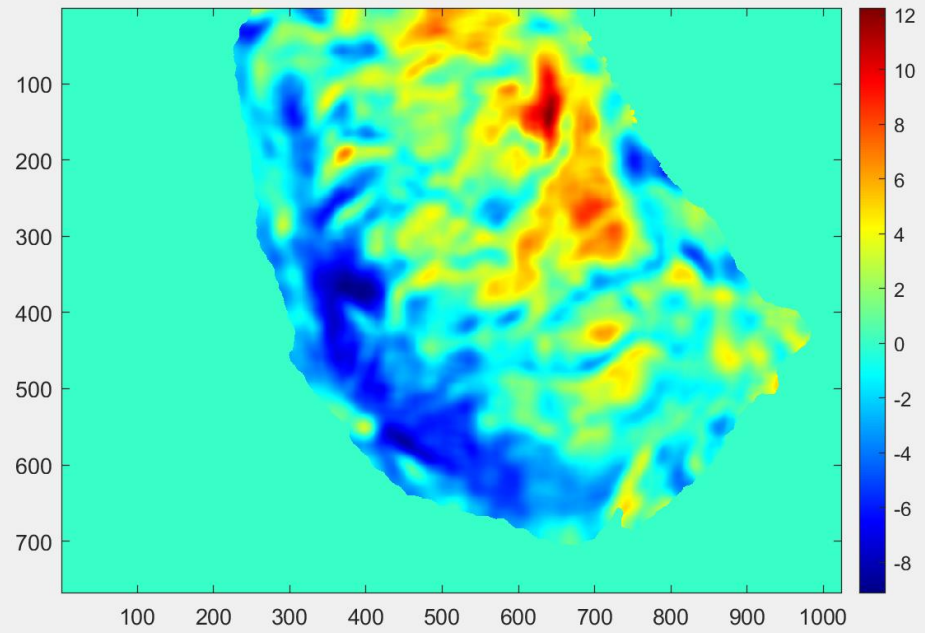
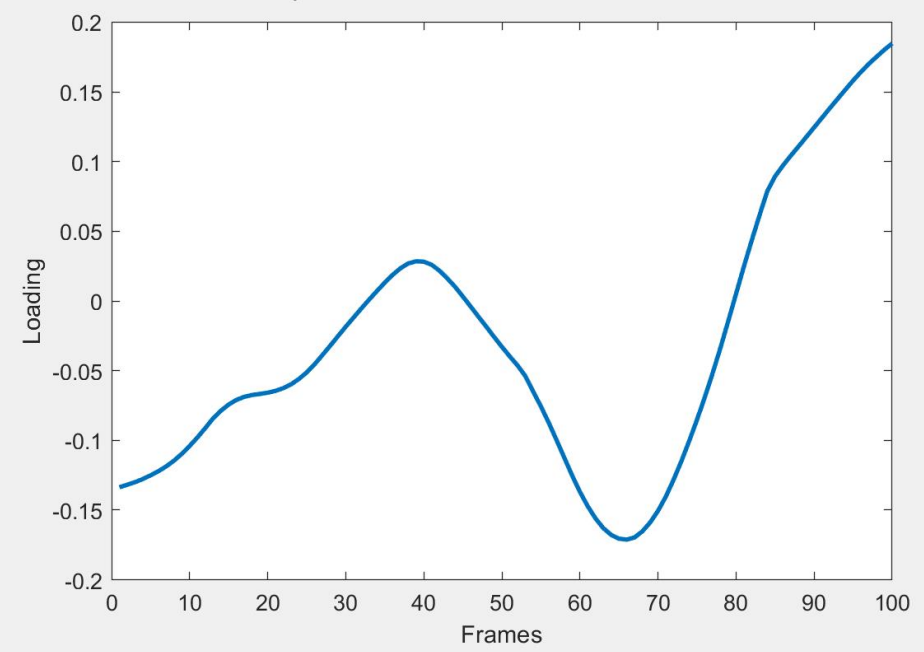
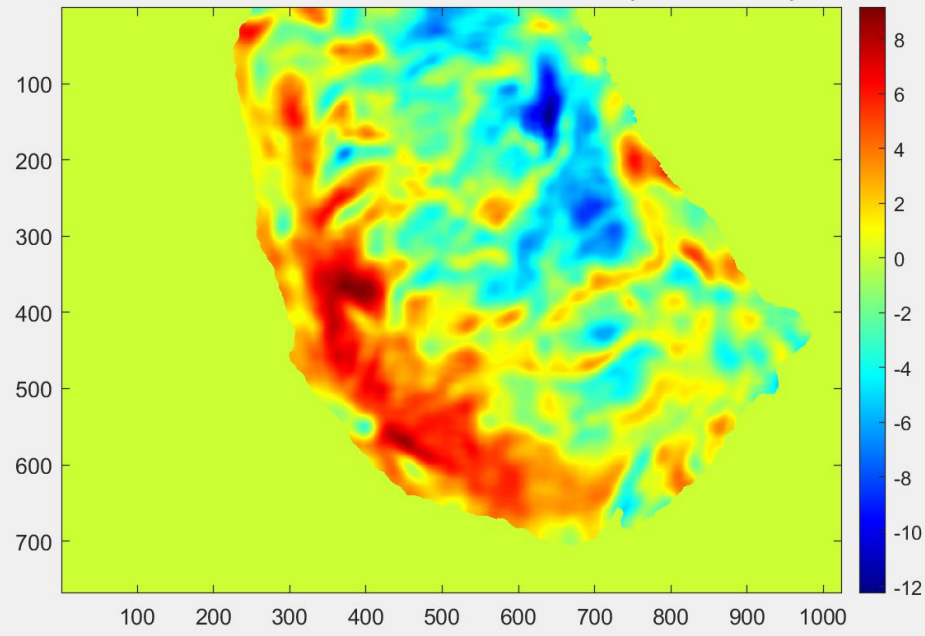
- A – Middle finger tingling
- B – 2nd finger
- C – Thumb
- D – Left pinky / sensory
- **E – Left arm + hand motor**
- F – Left wrist
- 1 – wrist
- 2 – jaw sensation
- 3 – mouth motor
- 4 – lateral mouth motor



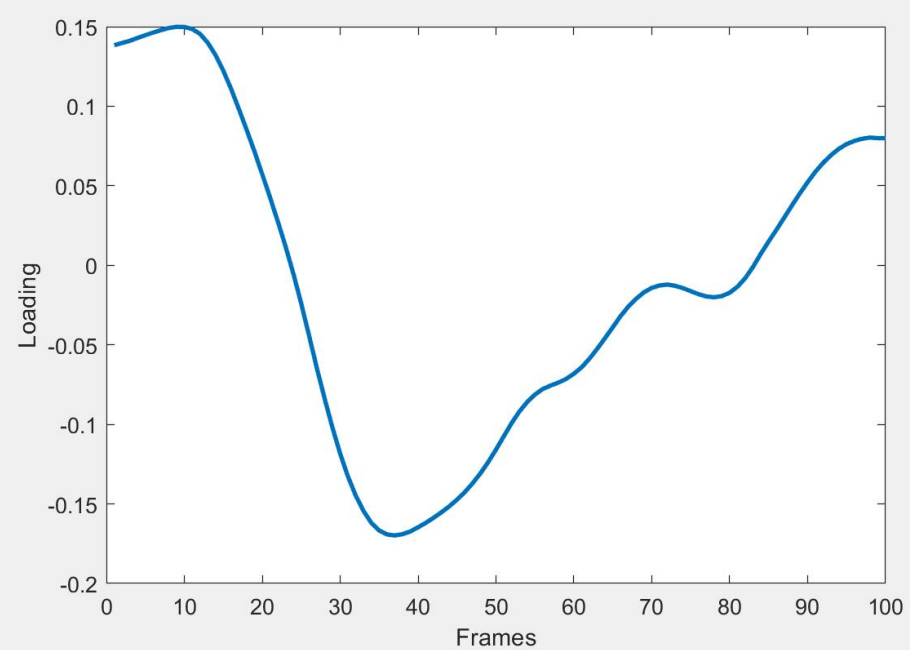
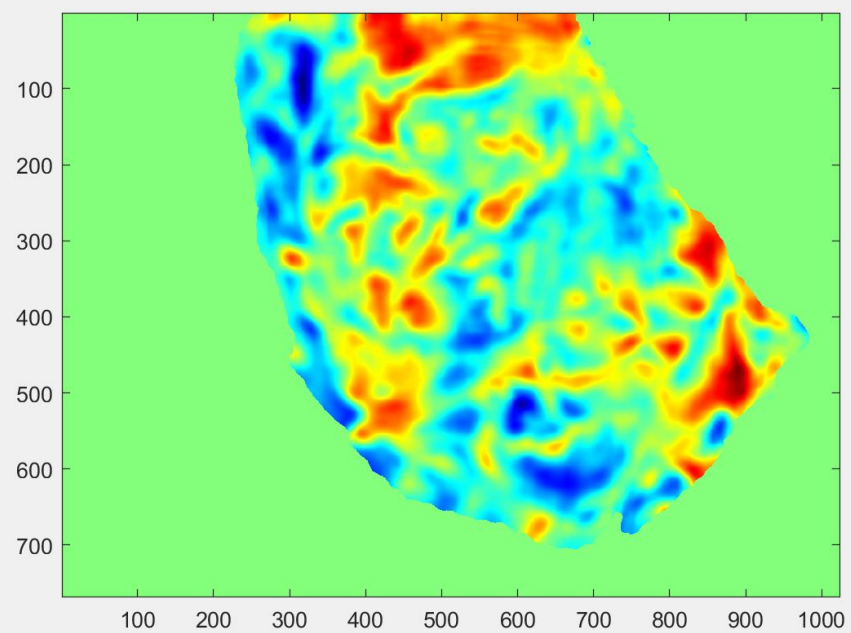
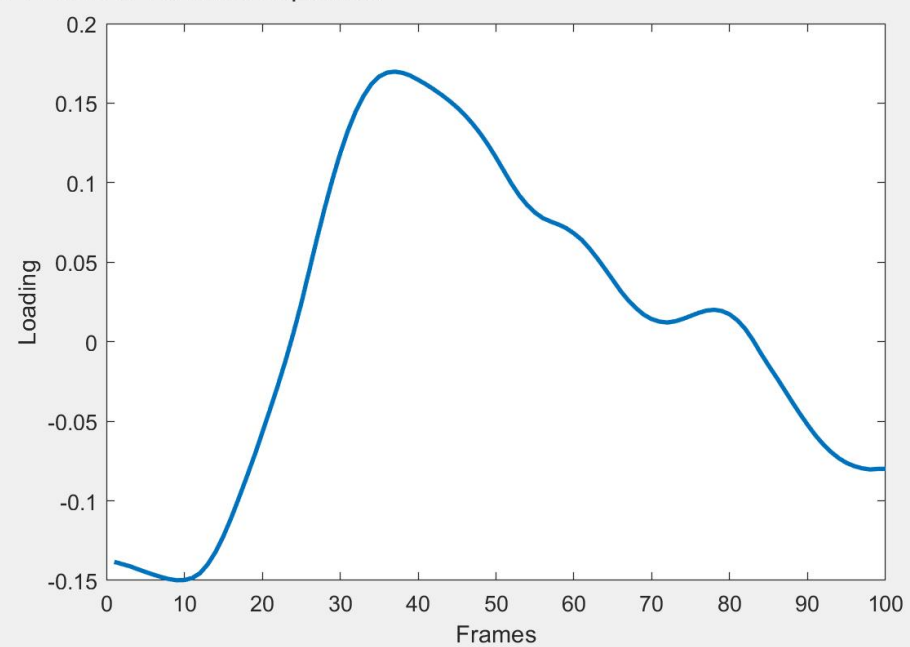
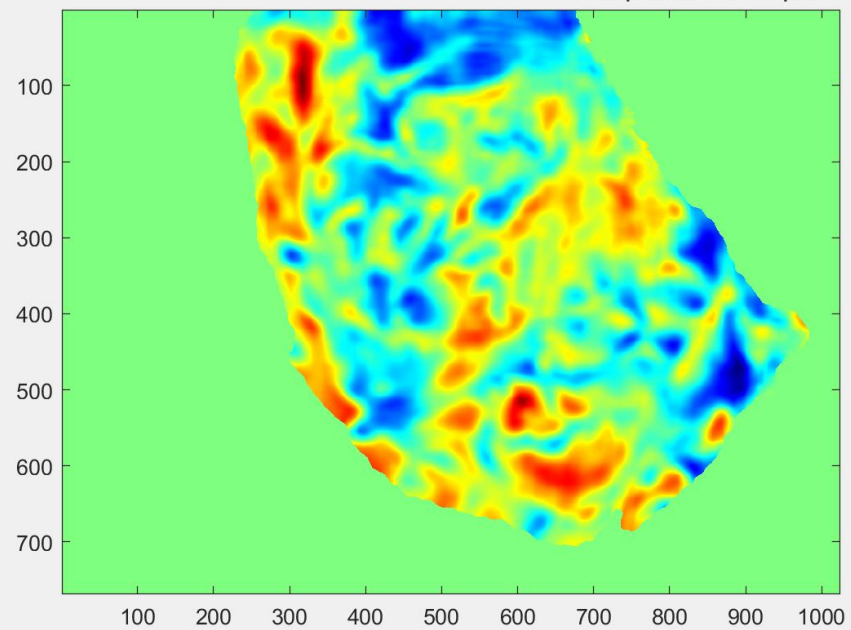
Component 1 Map for Patient 1: 36% of variance explained



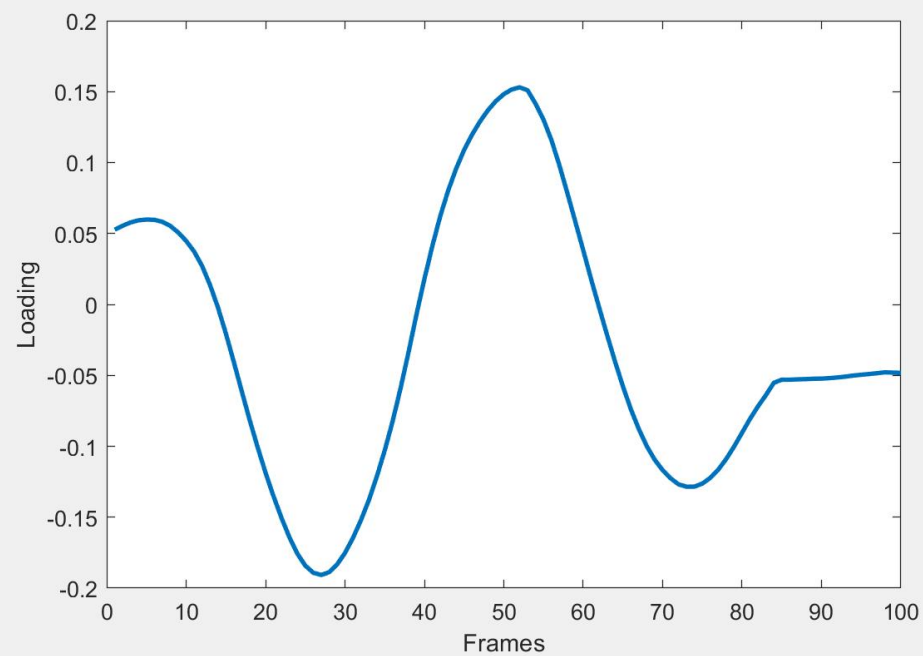
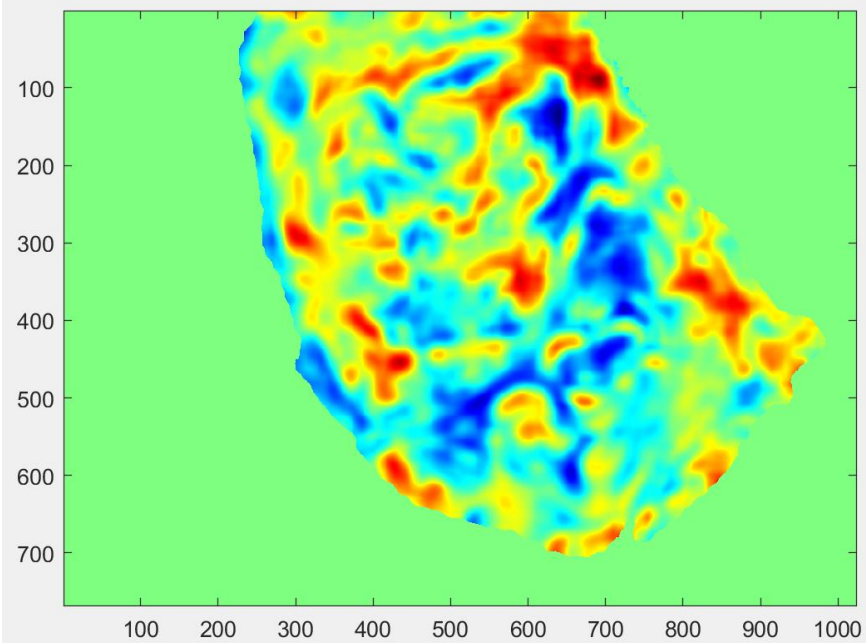
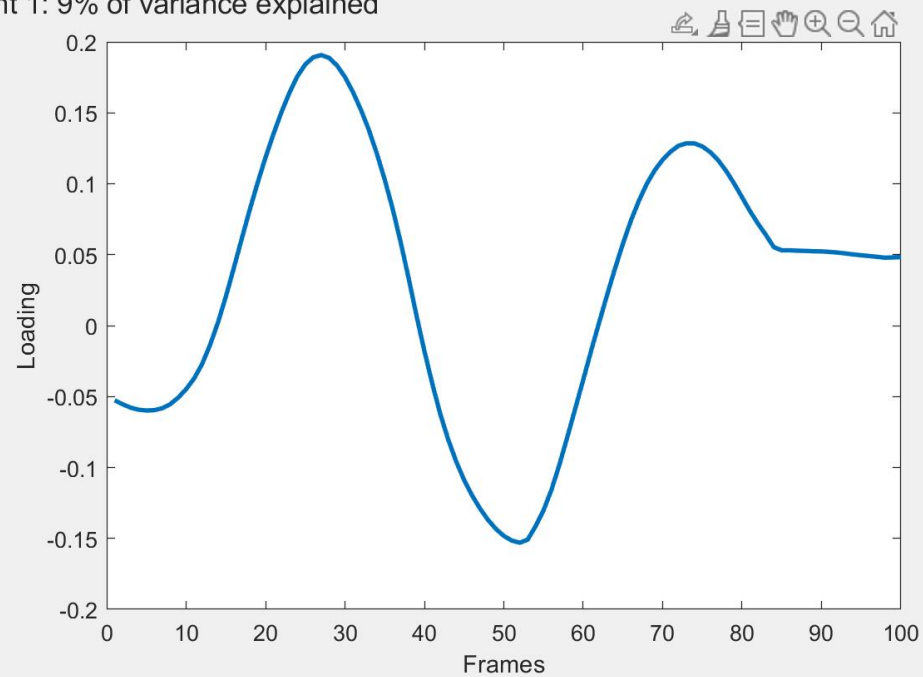
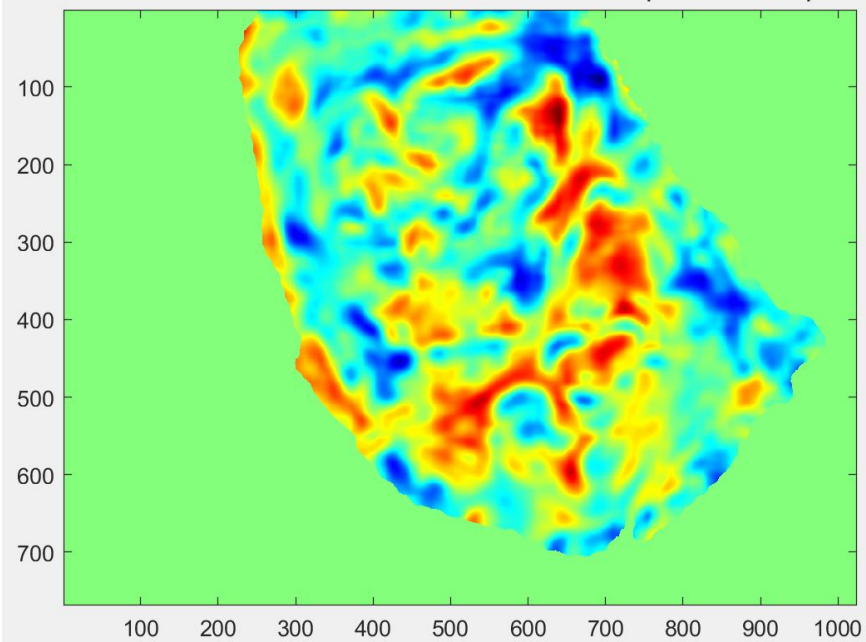
Component 2 Map for Patient 1: 19% of variance explained



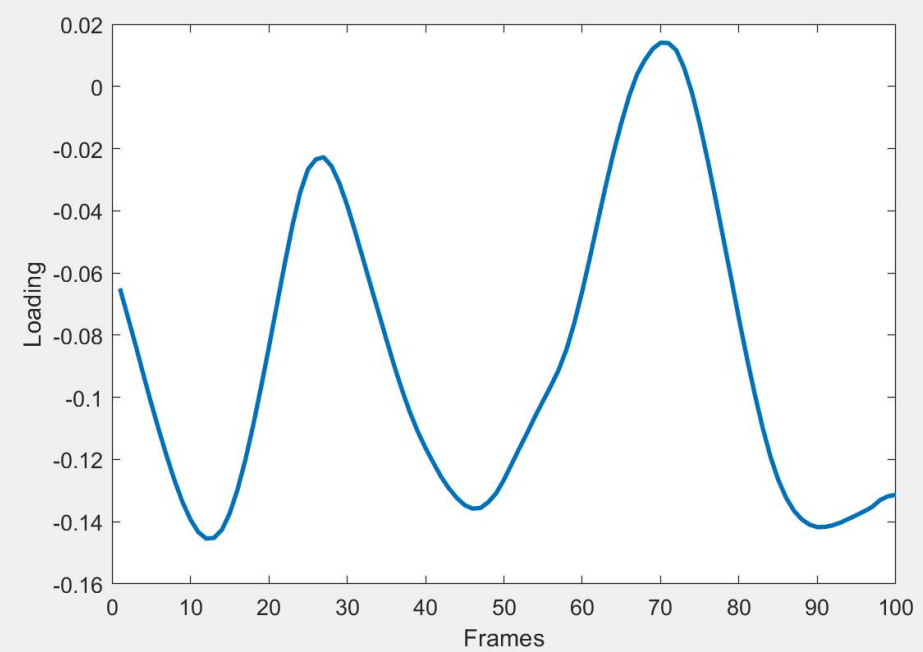
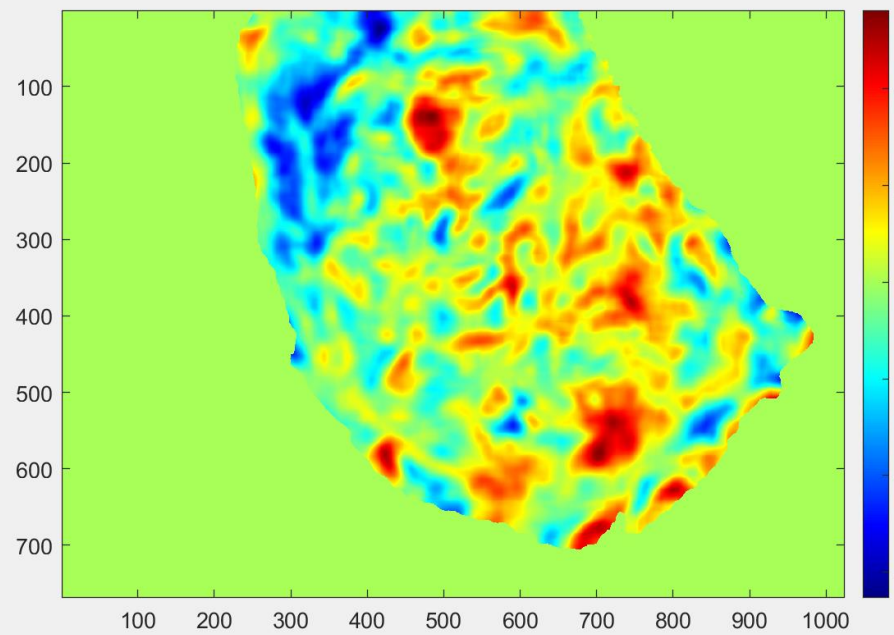
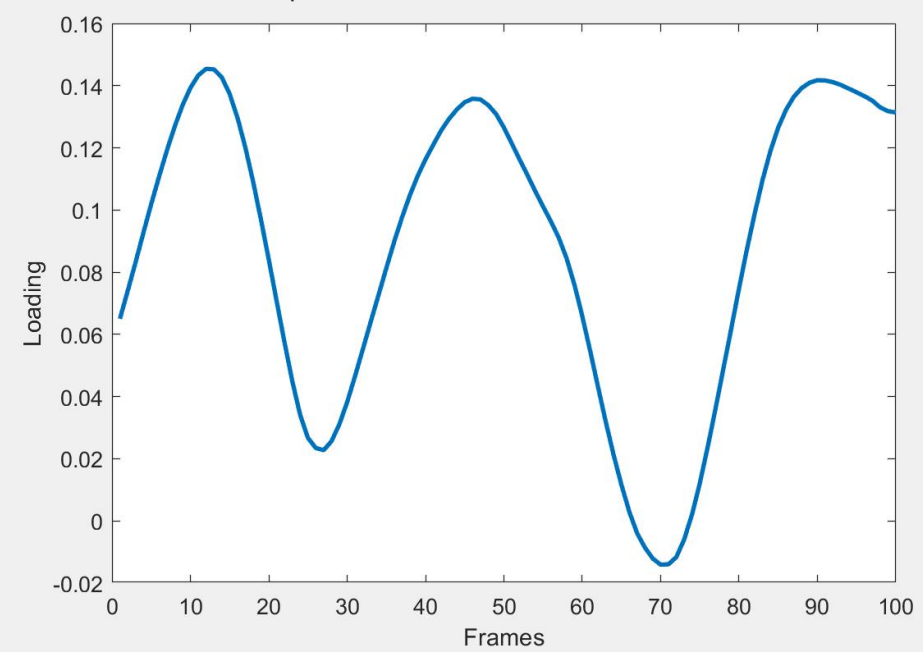
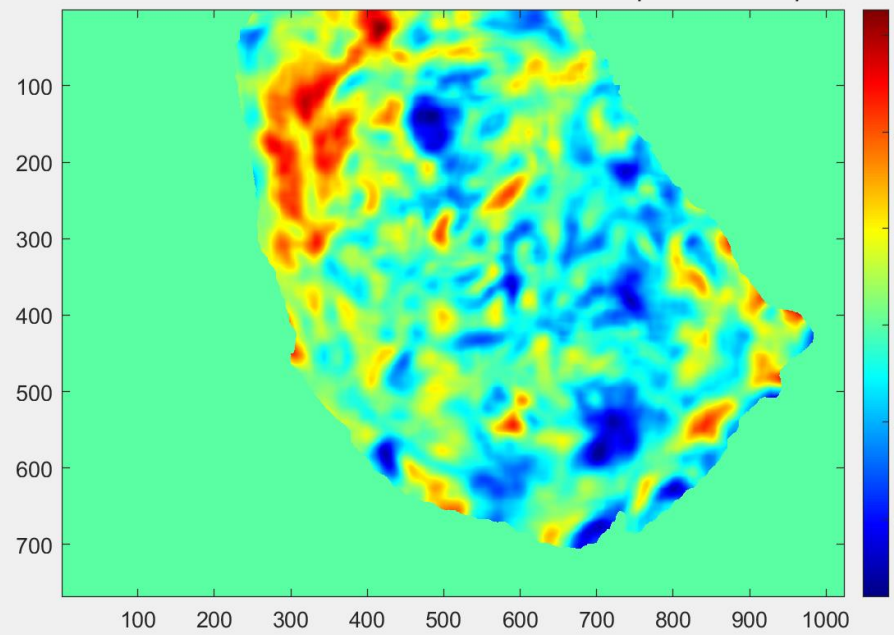
Component 3 Map for Patient 1: 15% of variance explained



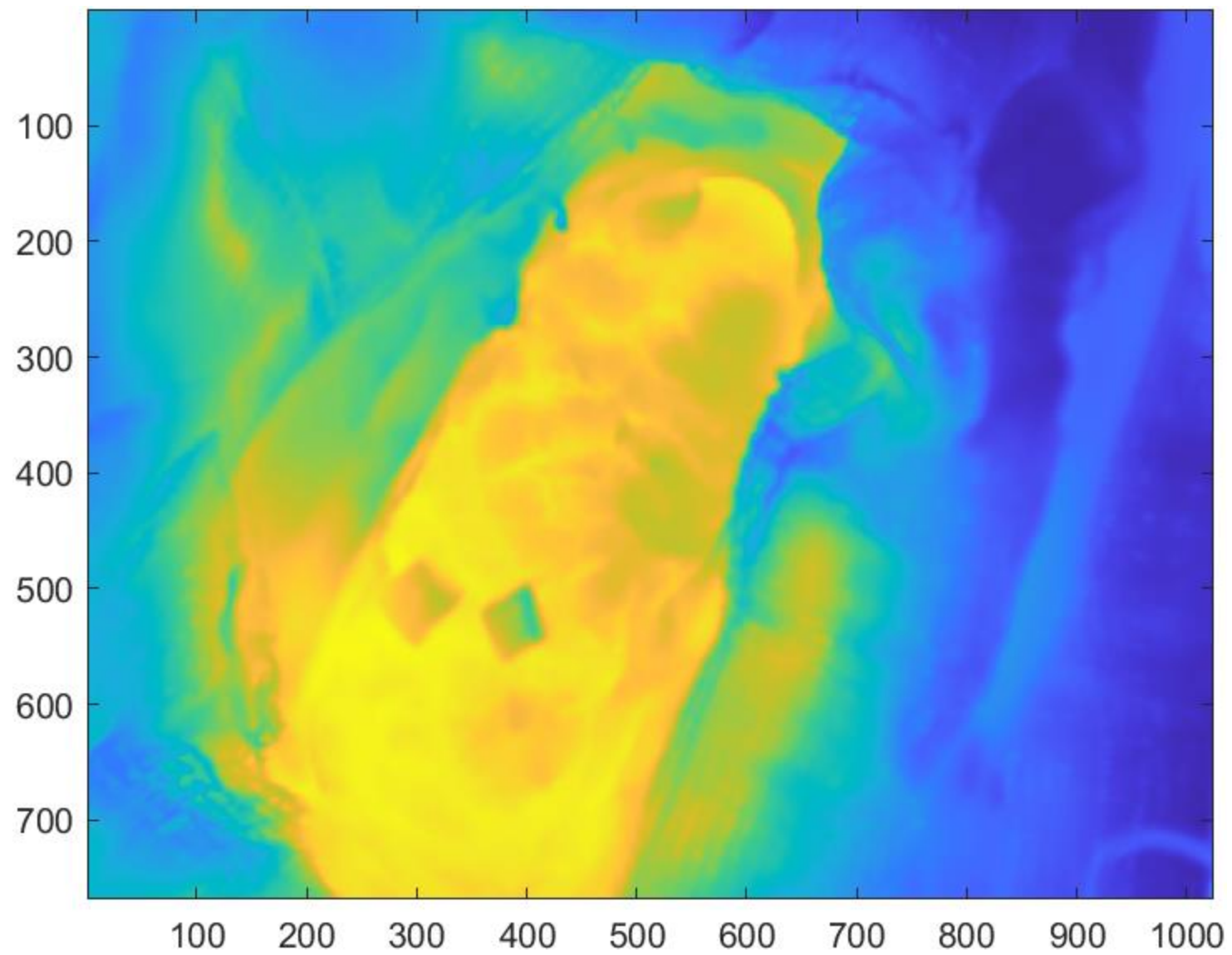
Component 4 Map for Patient 1: 9% of variance explained



Component 5 Map for Patient 1: 7% of variance explained

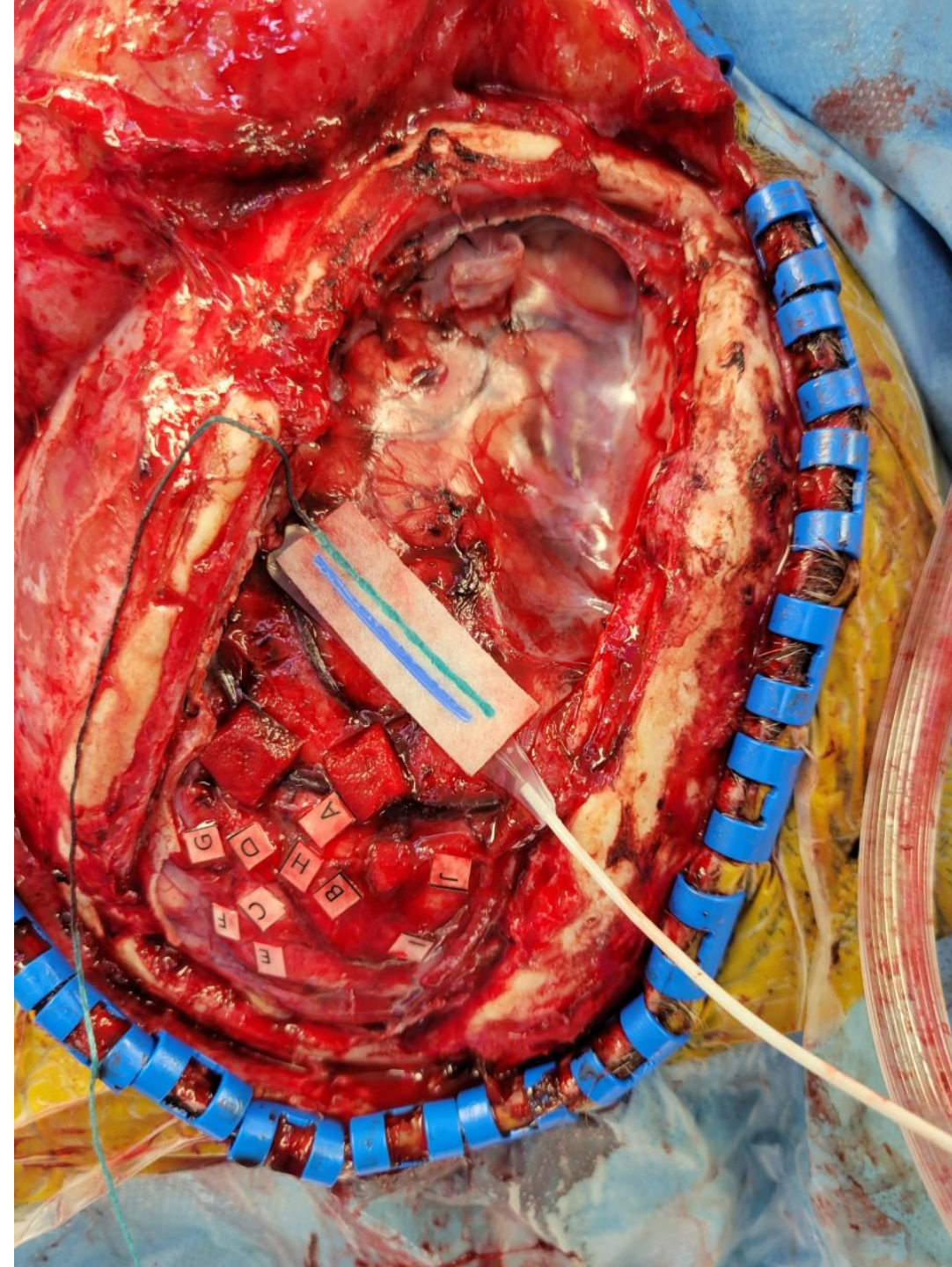


Patient 4: Hand Motor

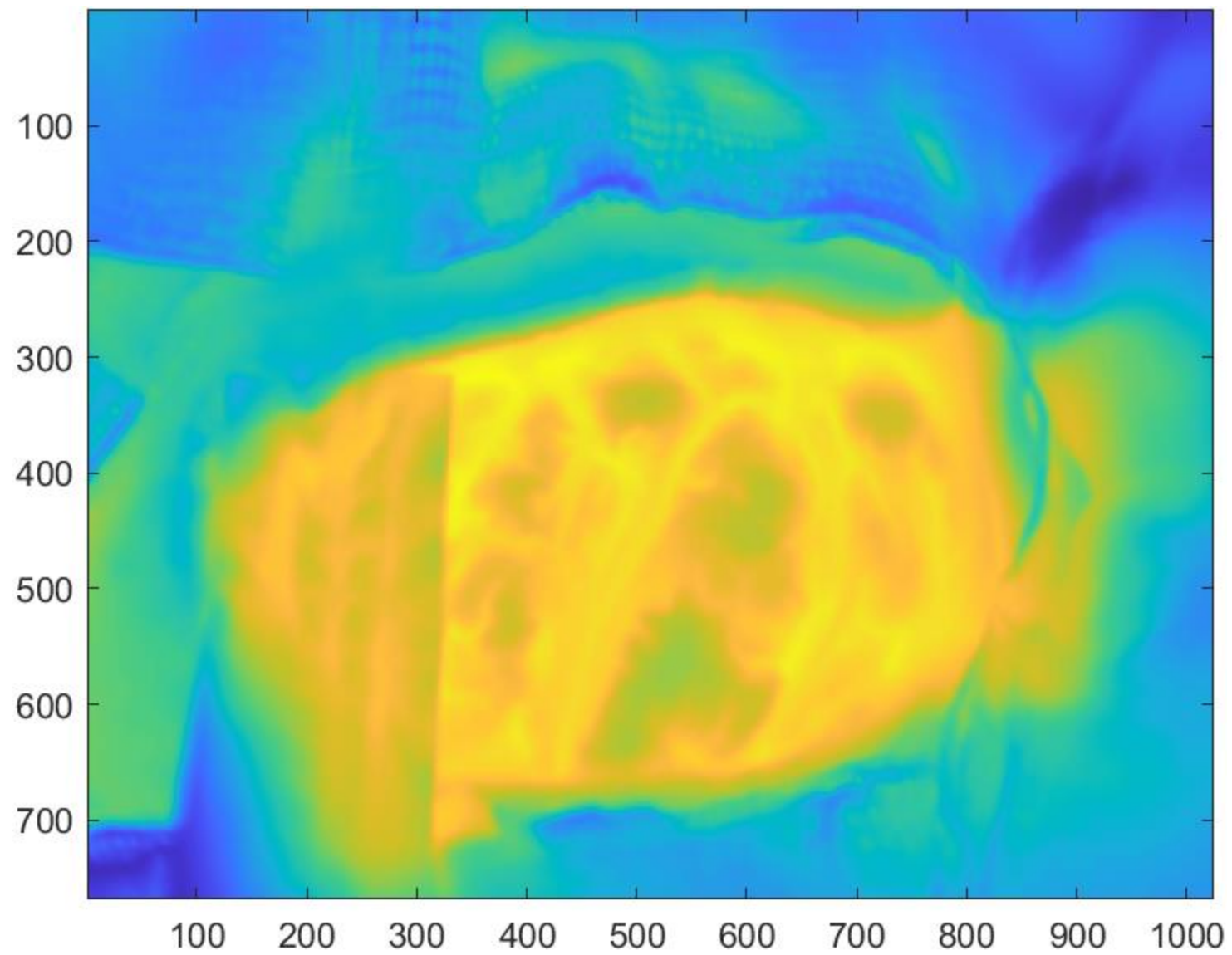


P4 (Hand Motor) DES Key

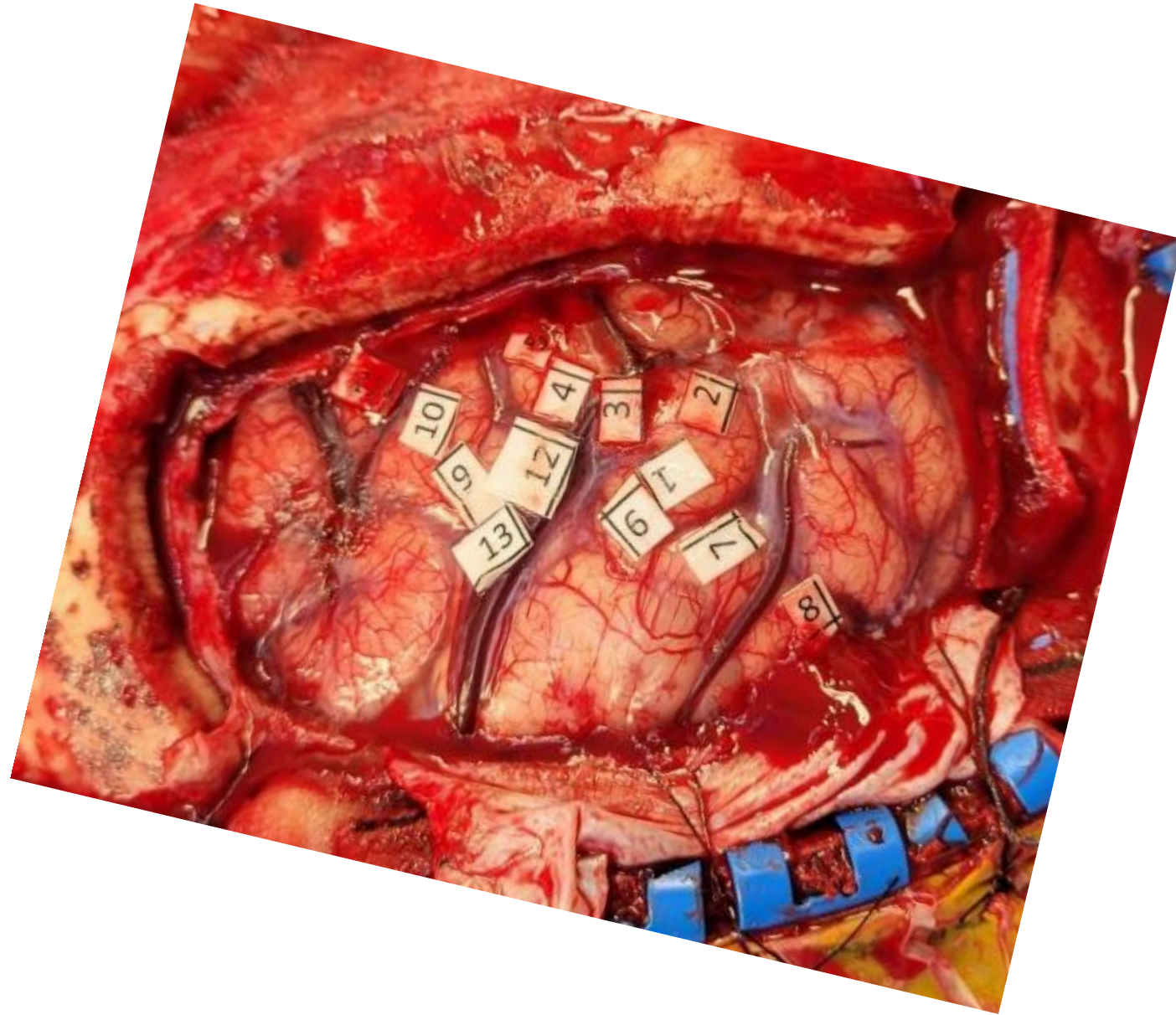
- A – Finger Adduction
- B – Finger Extension
- C – Finger Sensory
- D – Finger Sensory
- E – Finger Sensory
- G – Thumb Sensory
- H – Wrist Motor
- I – Forearm Motor
- J – Hand Motor



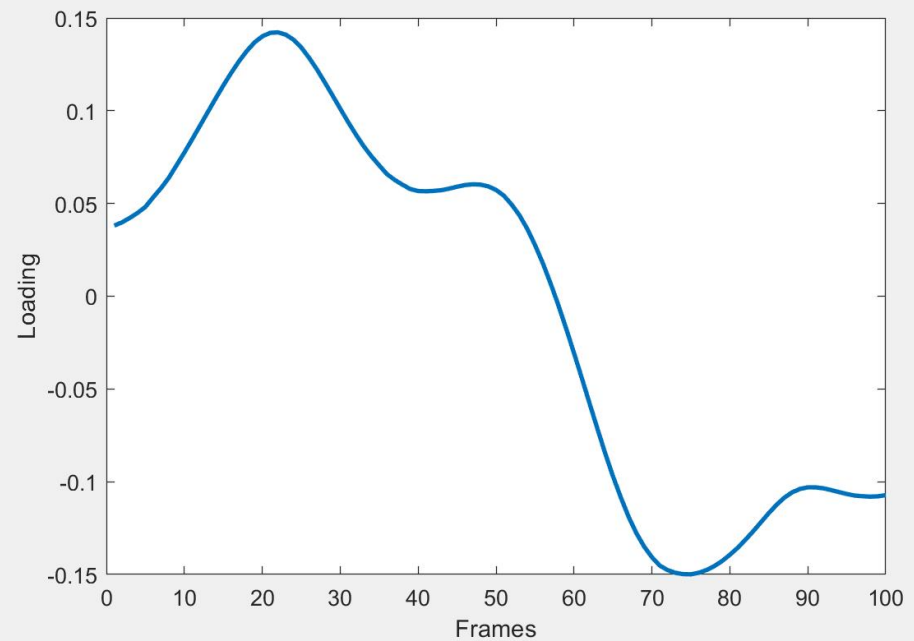
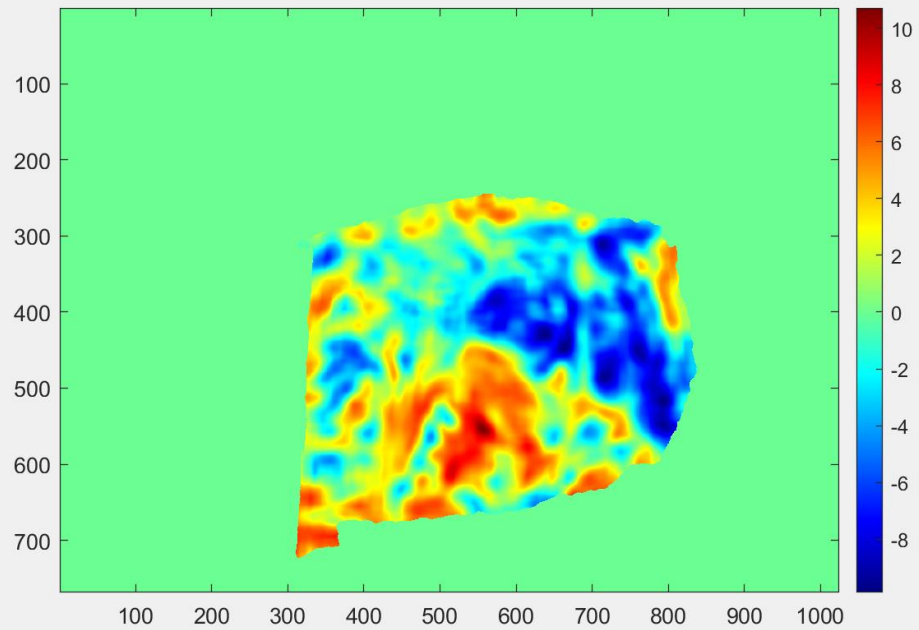
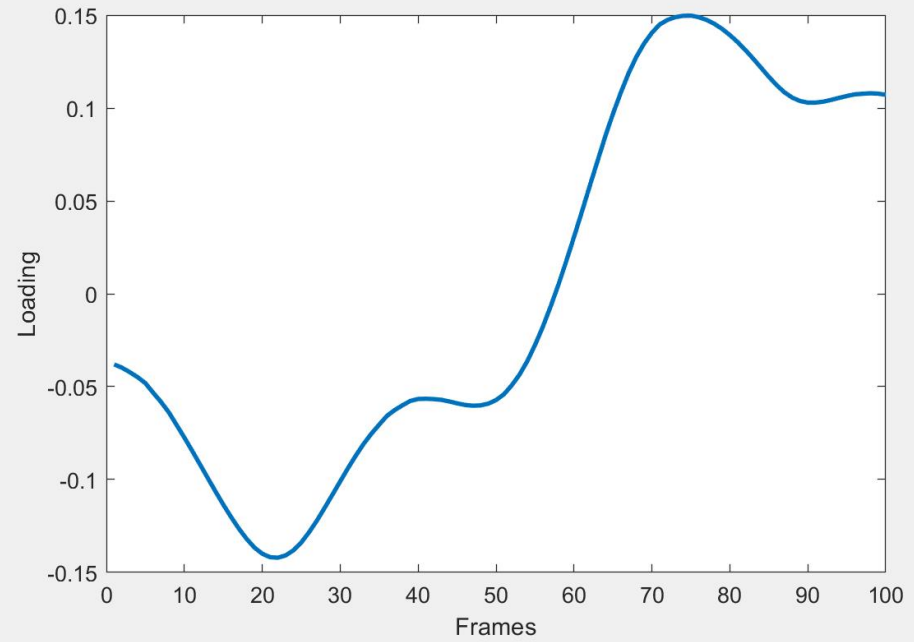
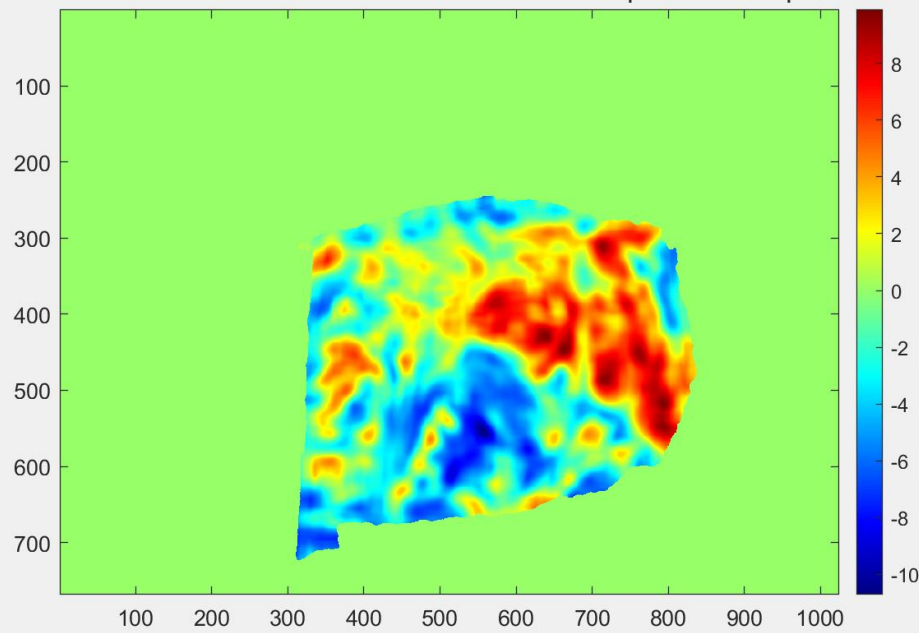
Patient 5: Hand Sensory

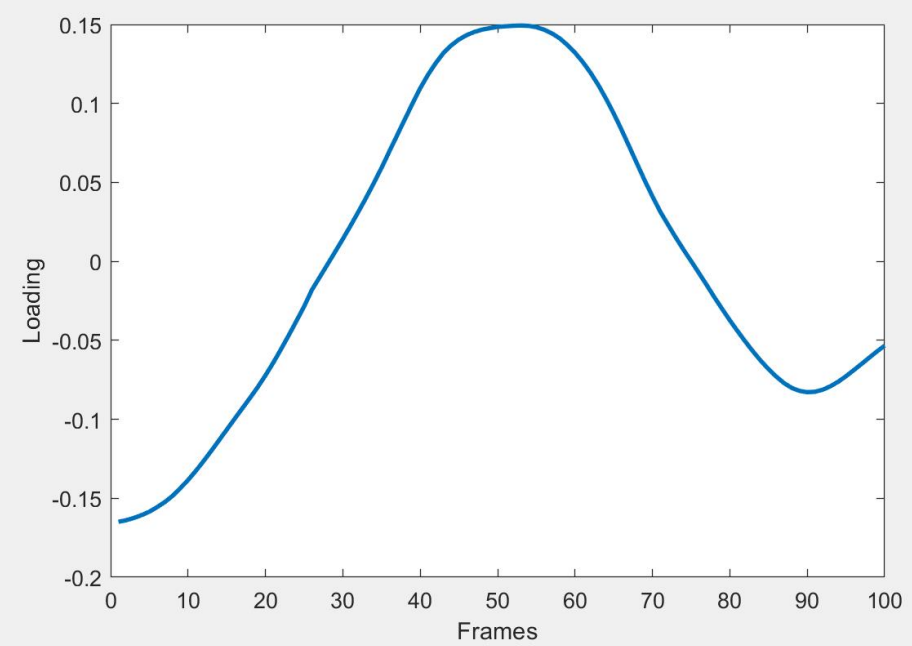
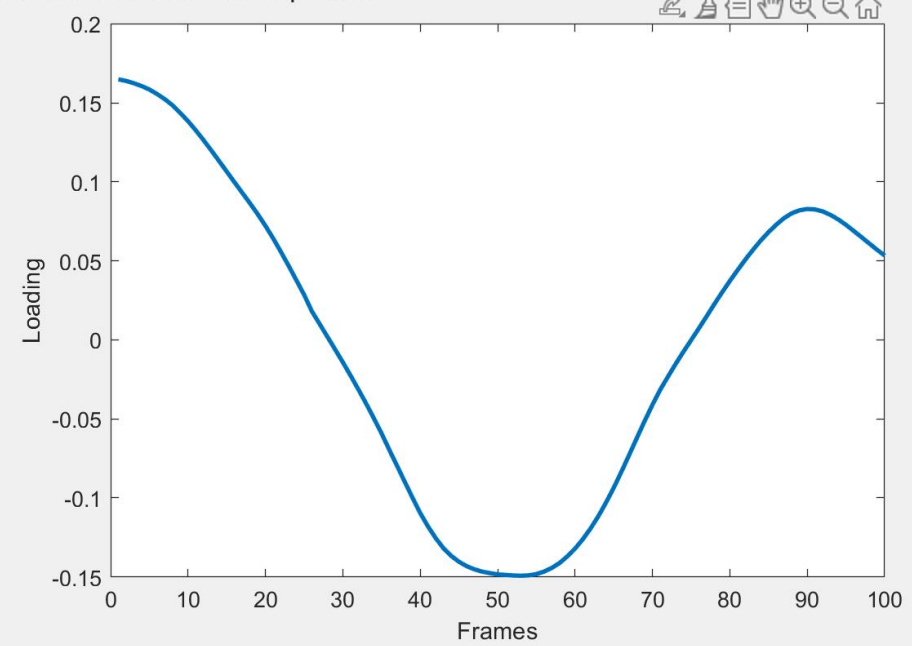


1. Forearm Sensory
2. Forearm Tingling
3. Left Palm Tingling
4. 3,4,5 Finger Flexion
5. **Finger Tingling**
6. Left Upper Arm Tingling
7. Torso Tingling (left)
8. Left Upper Side Tingling
9. Left Wrist / Arm Movement
10. Left Wrist Flexion
11. Face Tingling
12. Elbow Flexion
13. Left Shoulder Movement

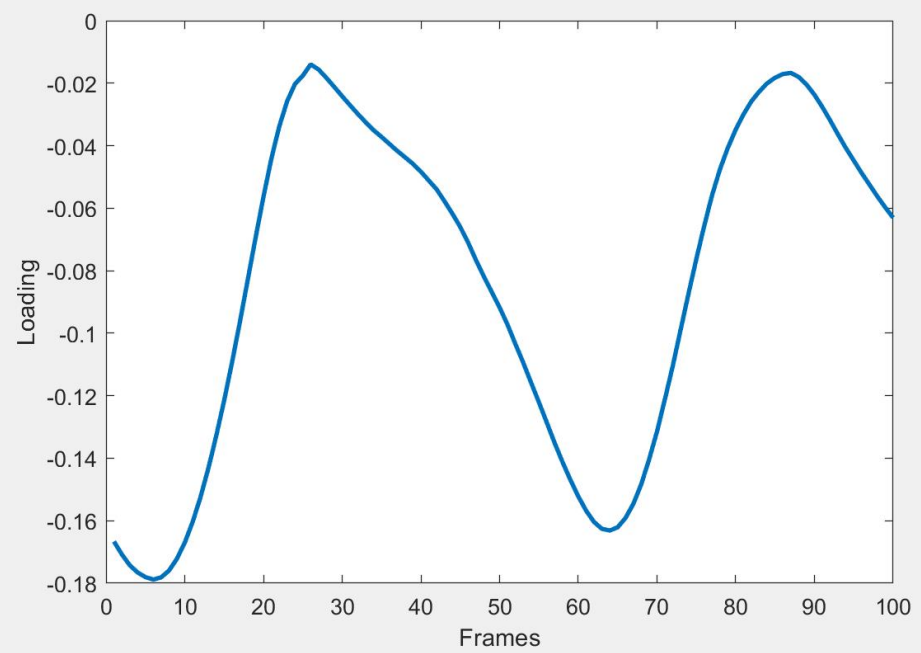
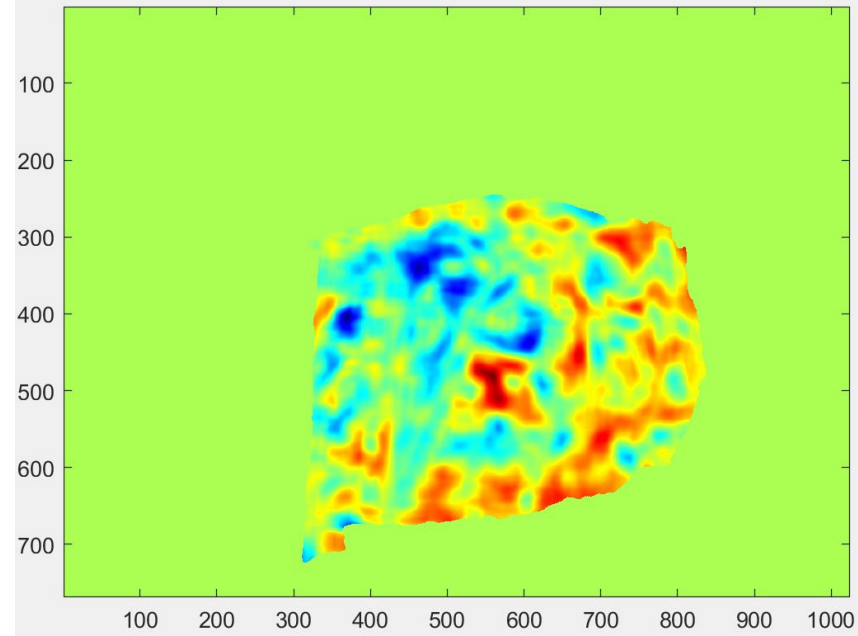
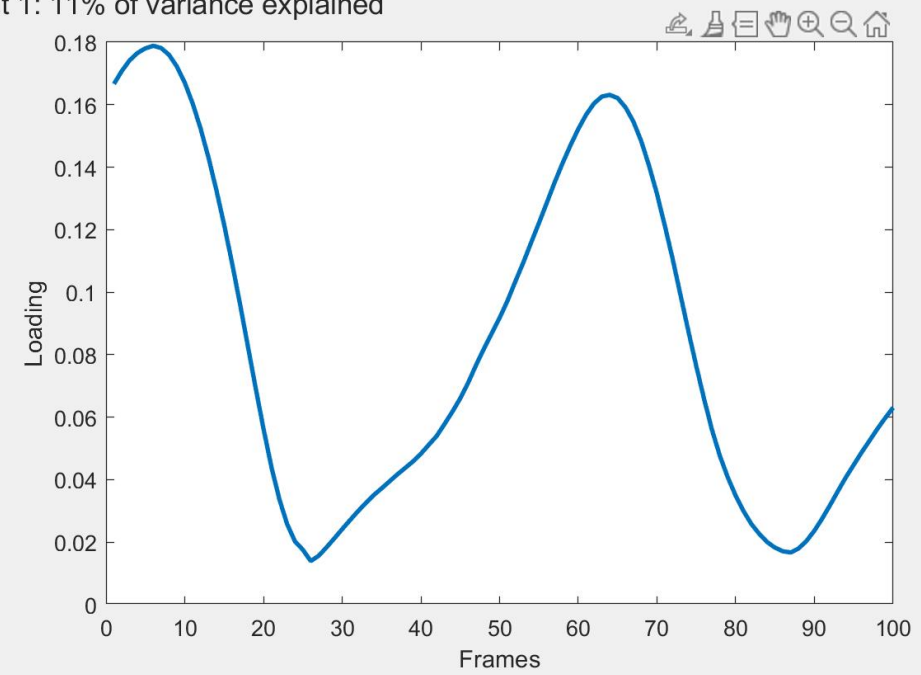
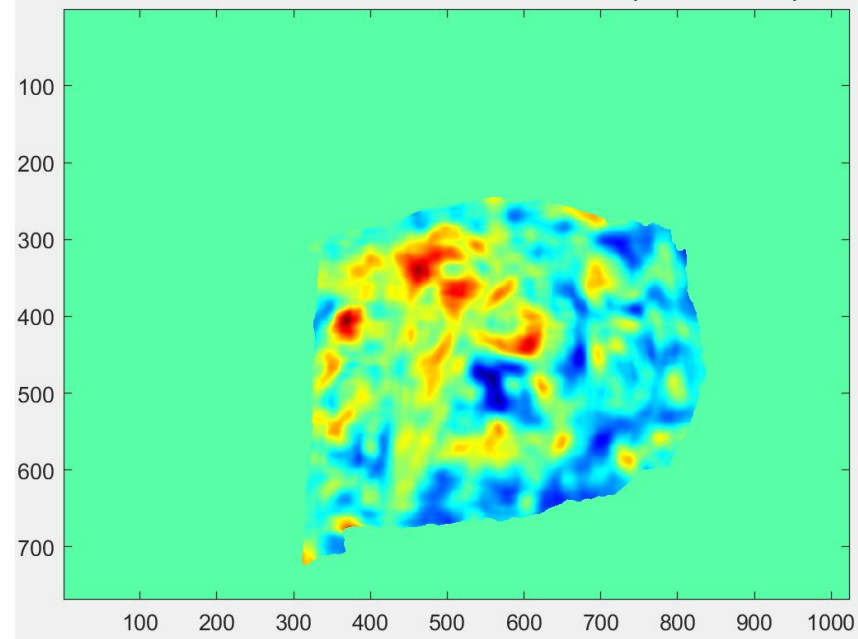


Component 1 Map for Patient 1: 35% of variance explained

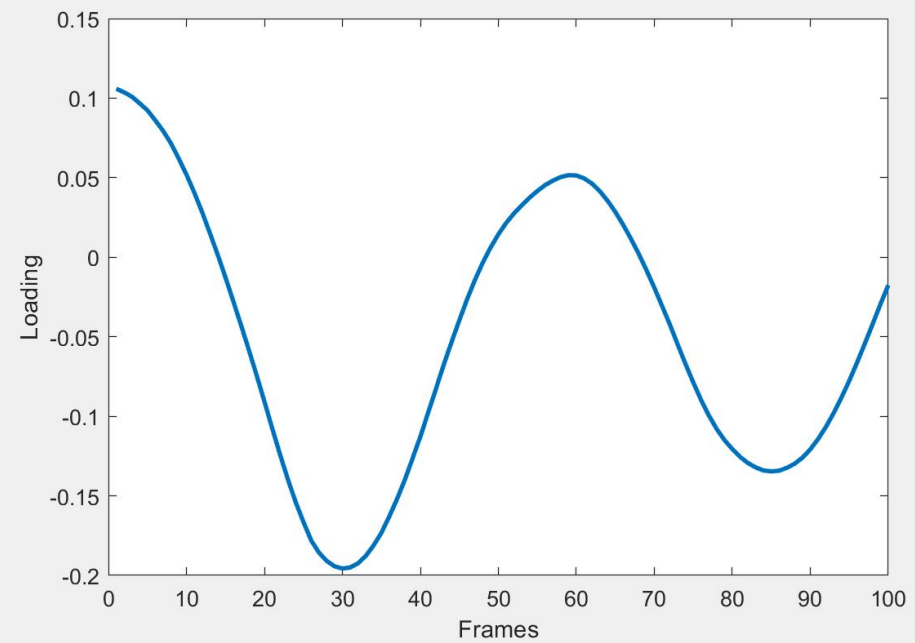
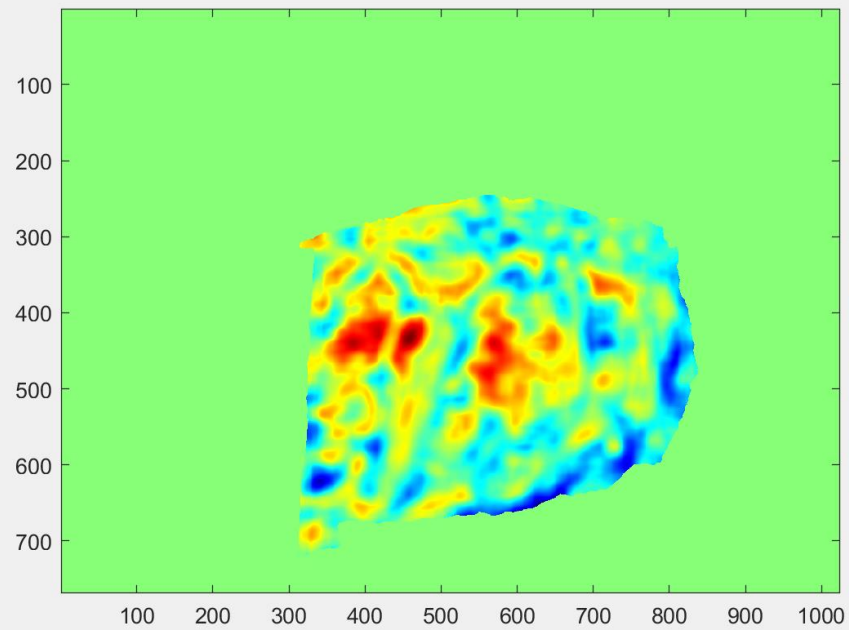
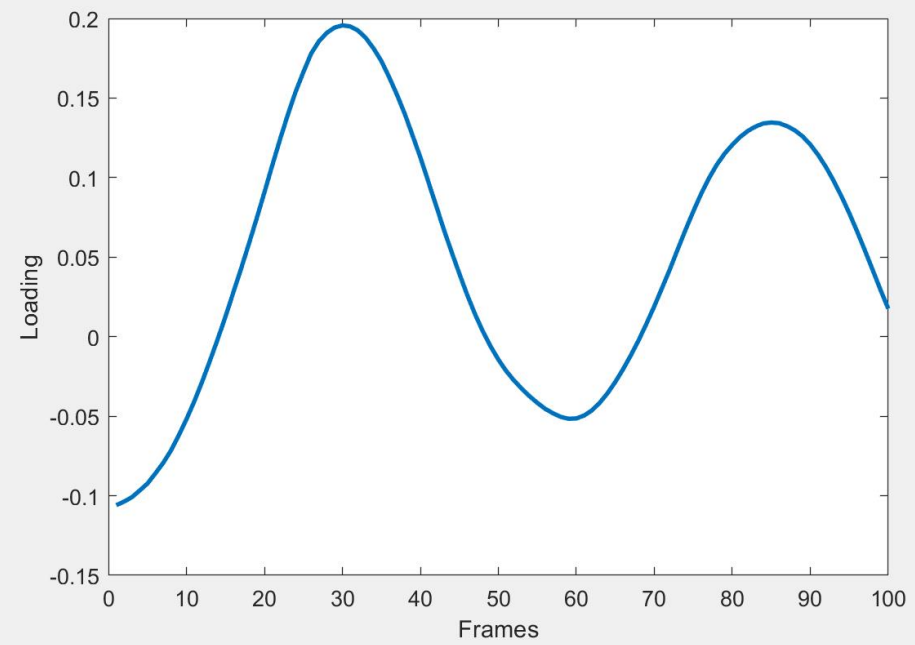
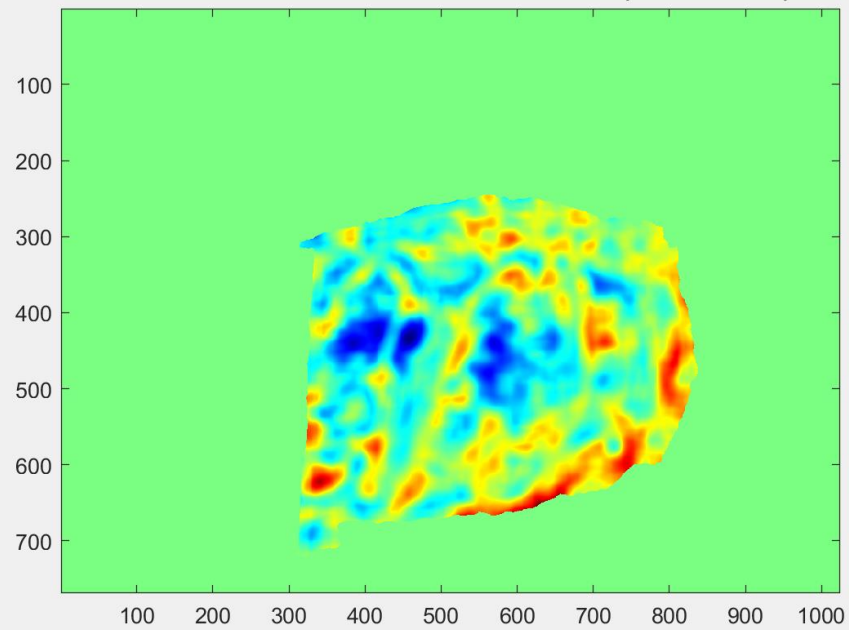




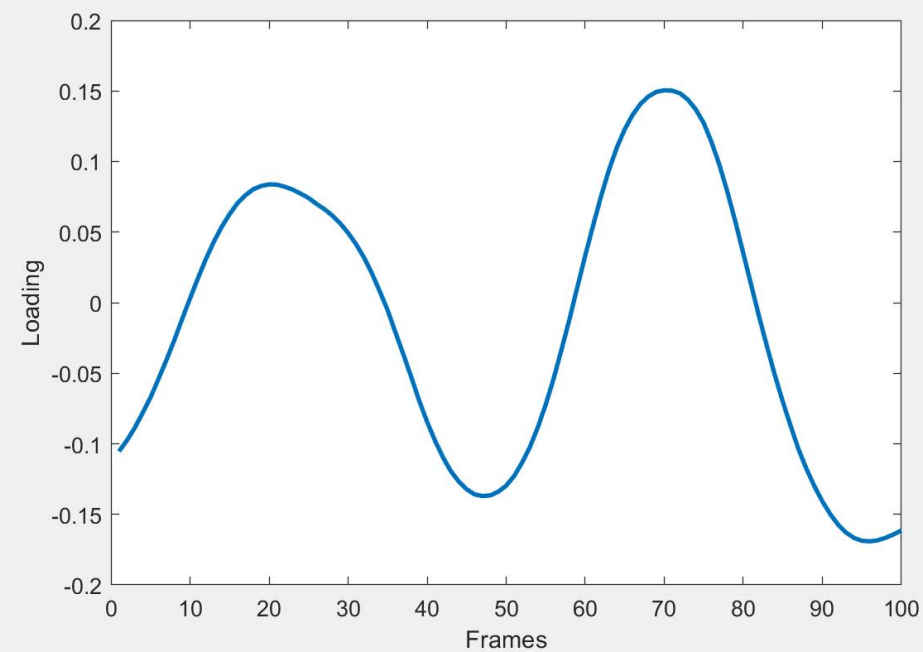
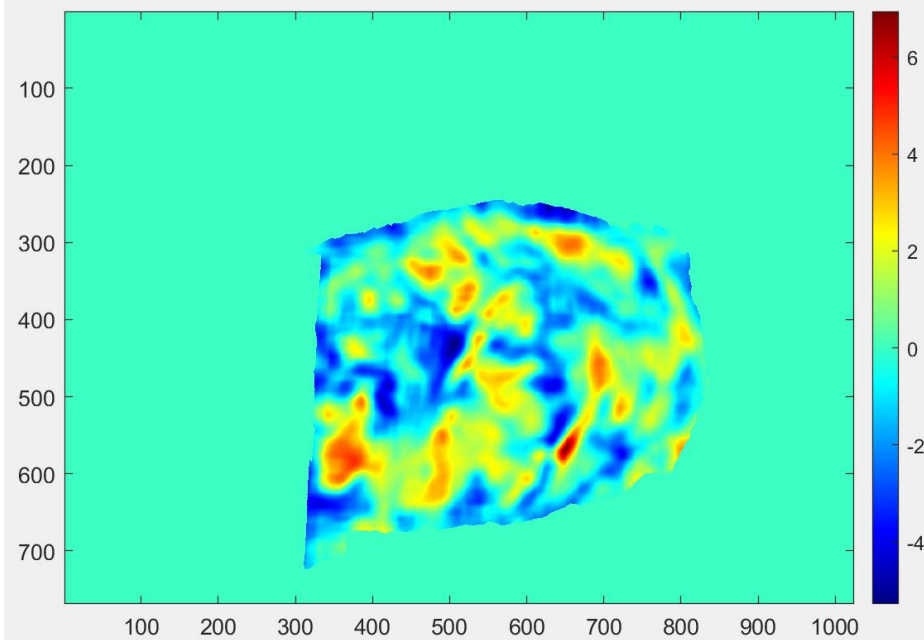
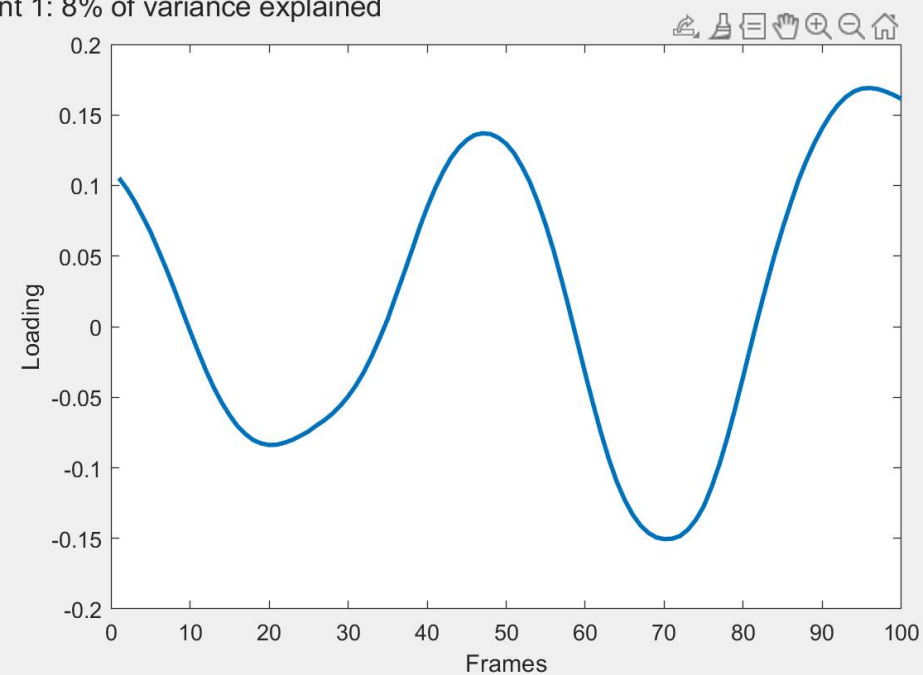
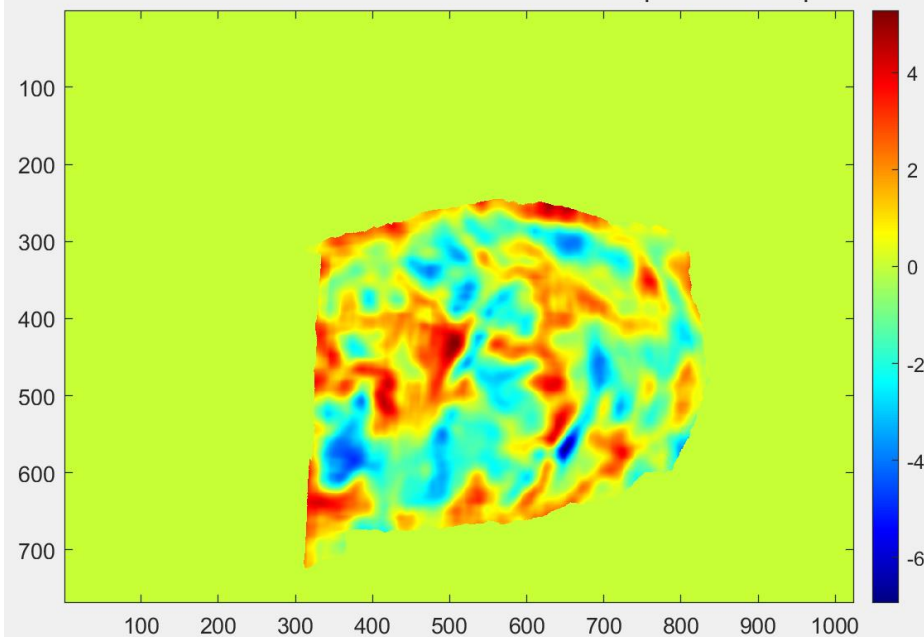
Component 3 Map for Patient 1: 11% of variance explained



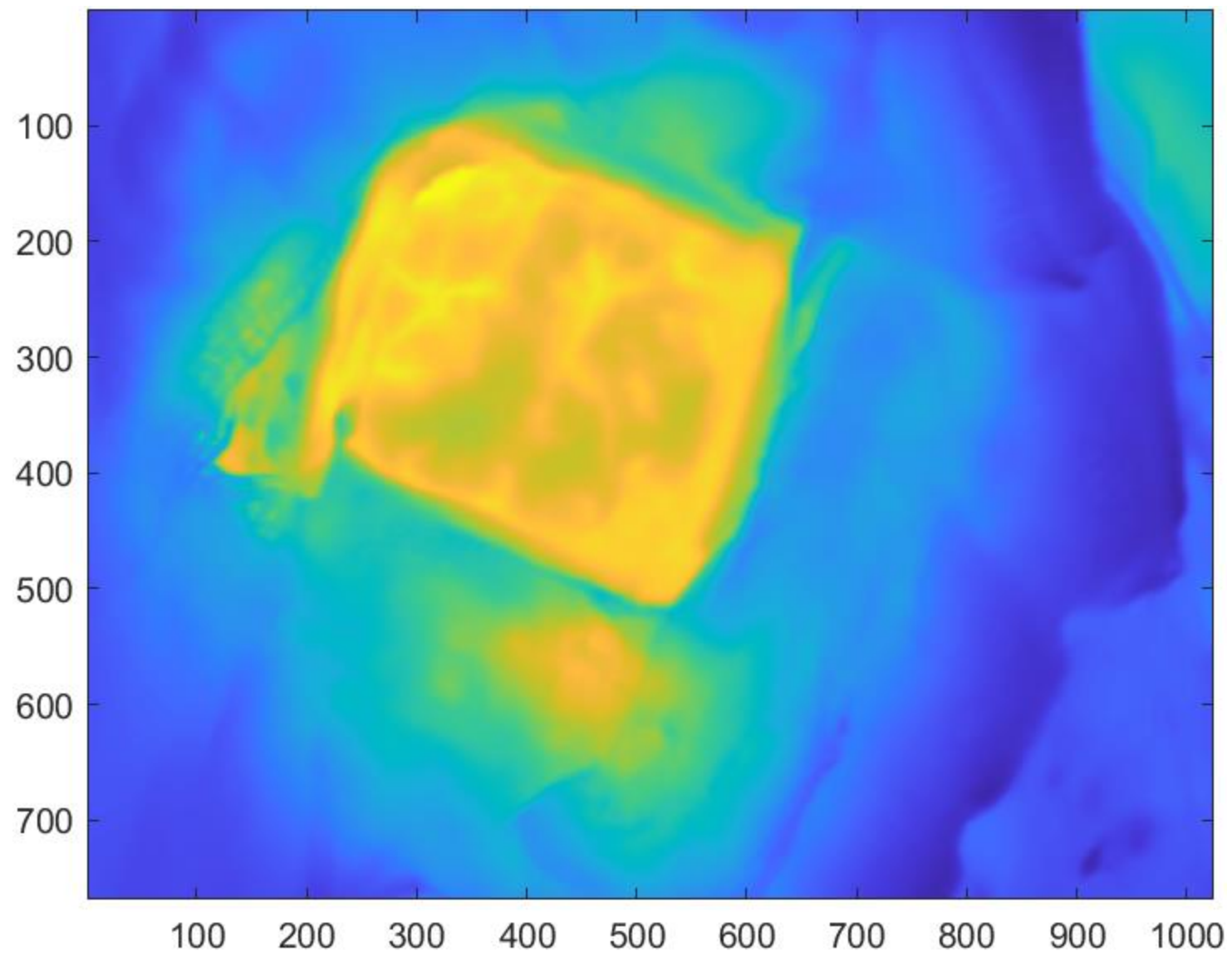
Component 4 Map for Patient 1: 11% of variance explained



Component 5 Map for Patient 1: 8% of variance explained

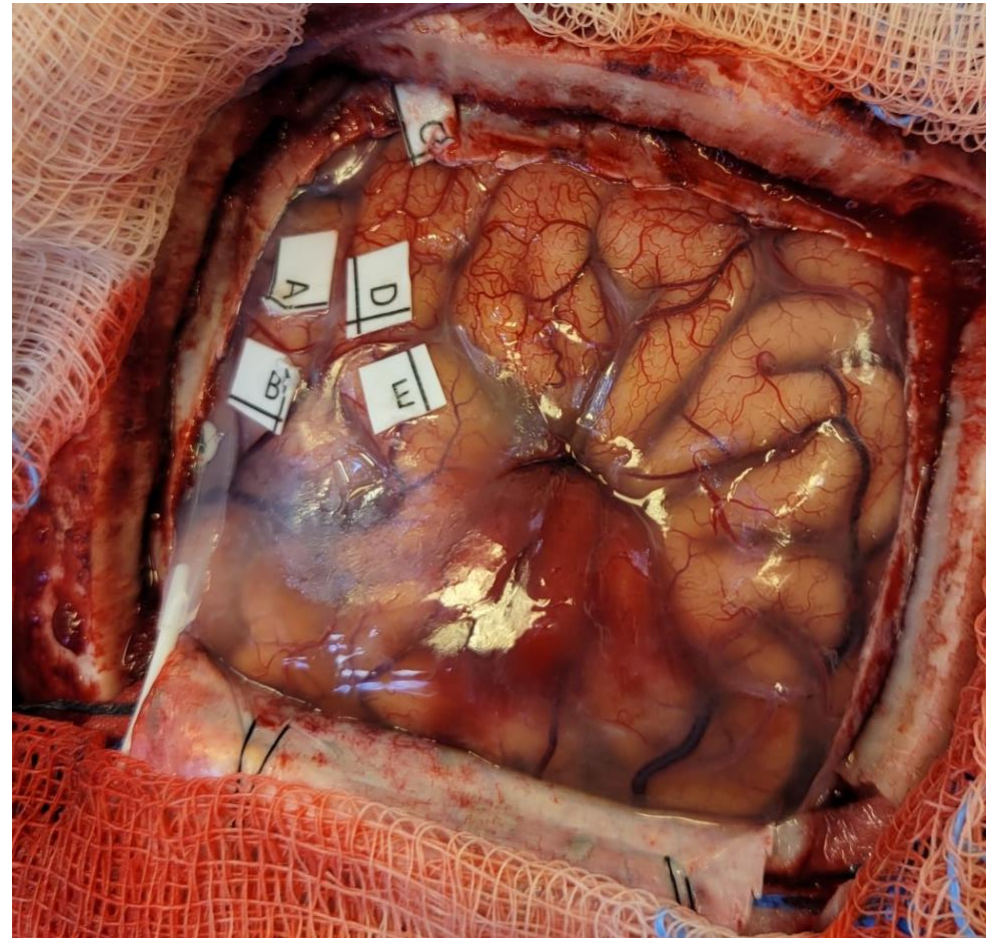


Patient 6: Hand Sensory

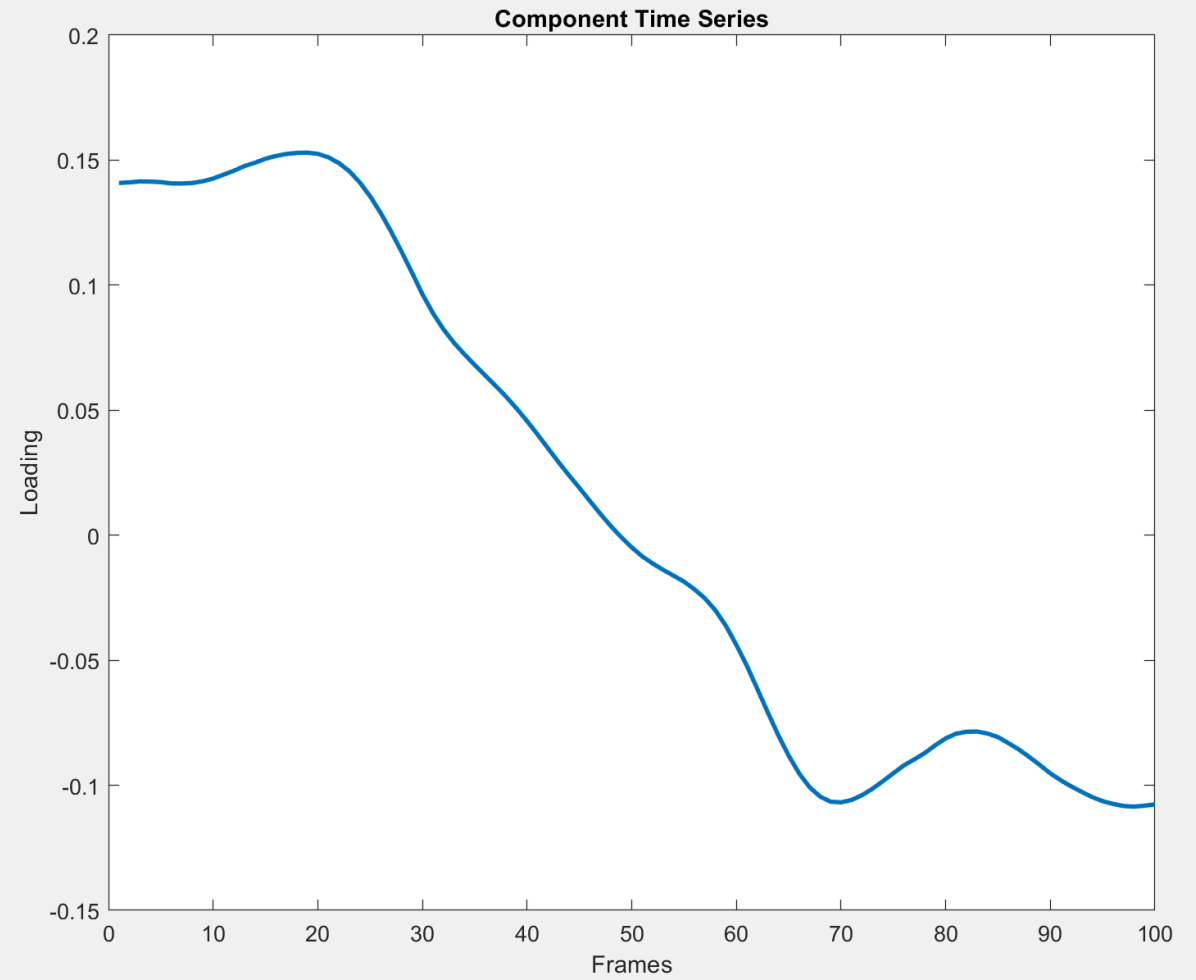
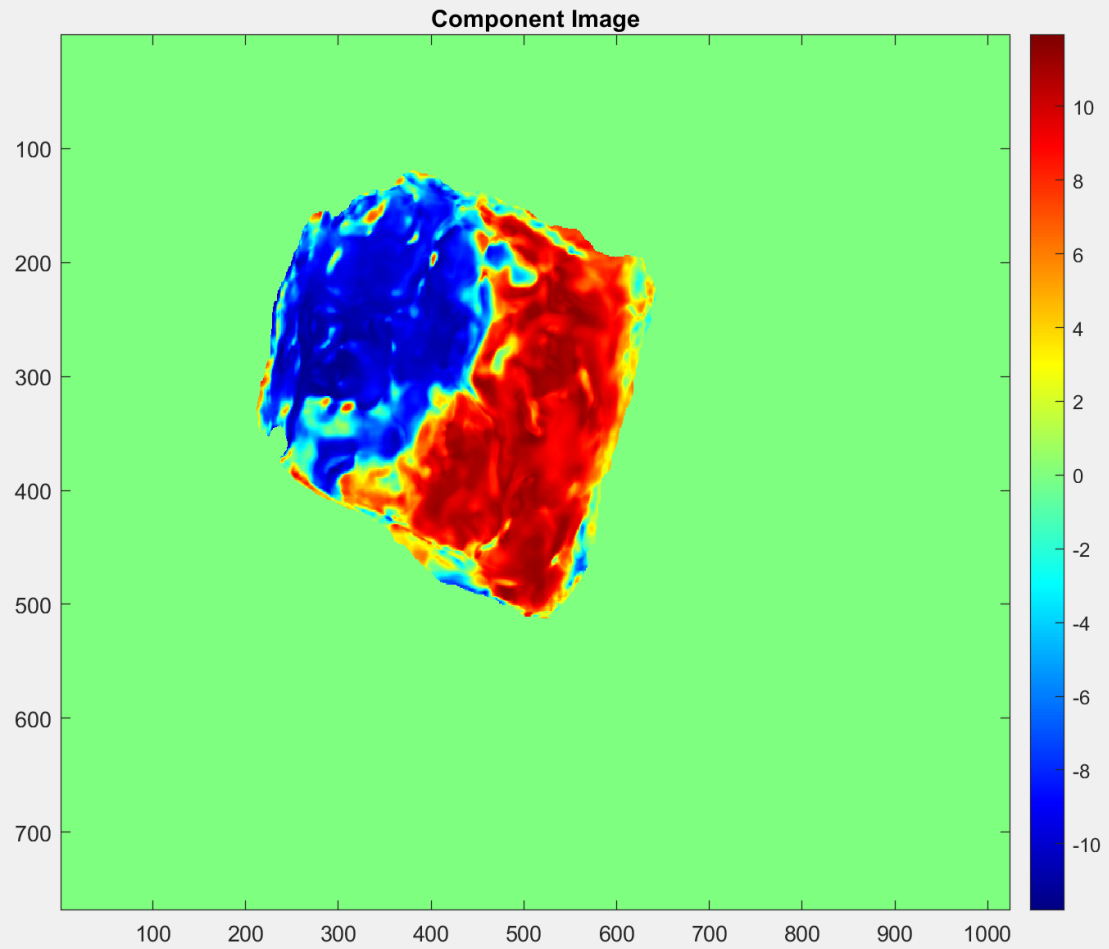


P6 (Hand Sensory) DES Key

- A – Left finger extension
- B – Left hand extension
- C – Cheek tingling
- D – Thumb numbness
- E – Pinky Numbness

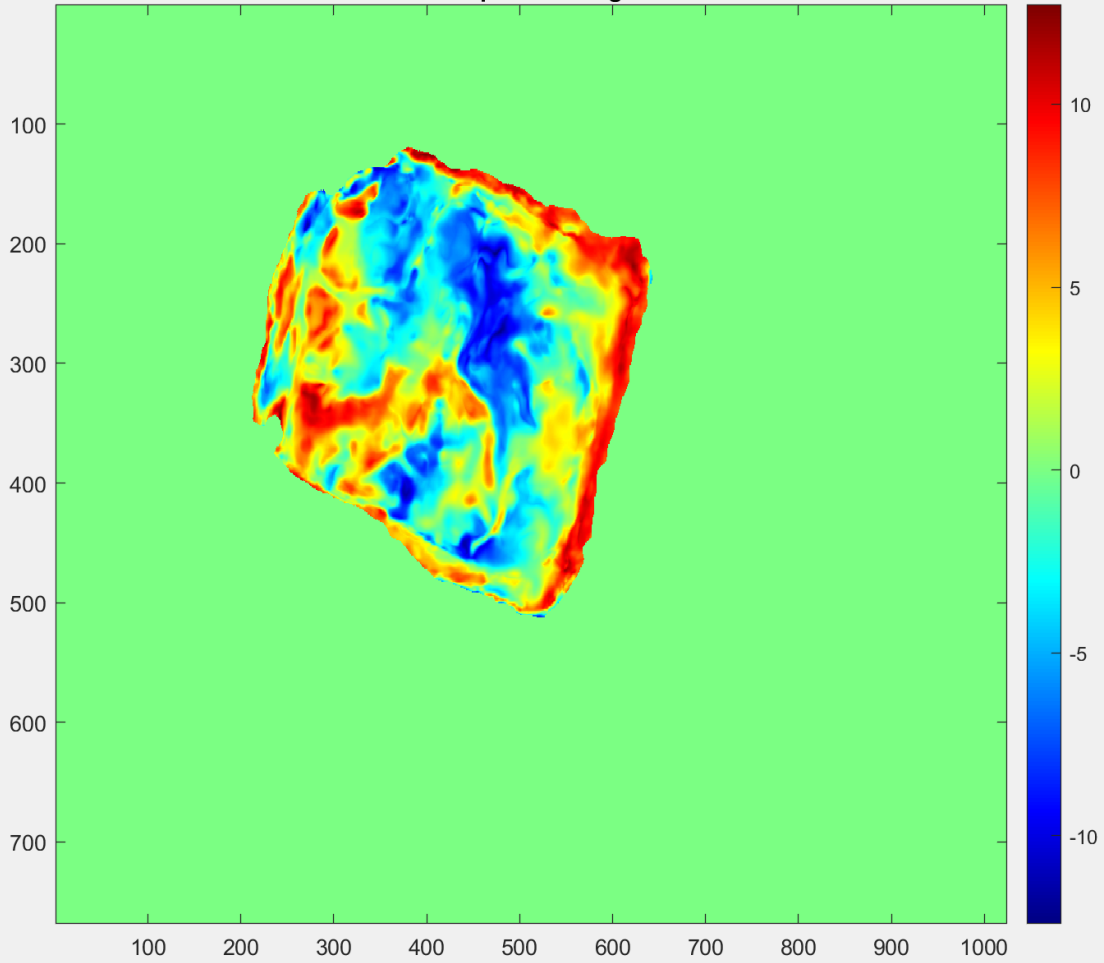


PCA Component 1: 47.35 Percent of Total Variance Explained.

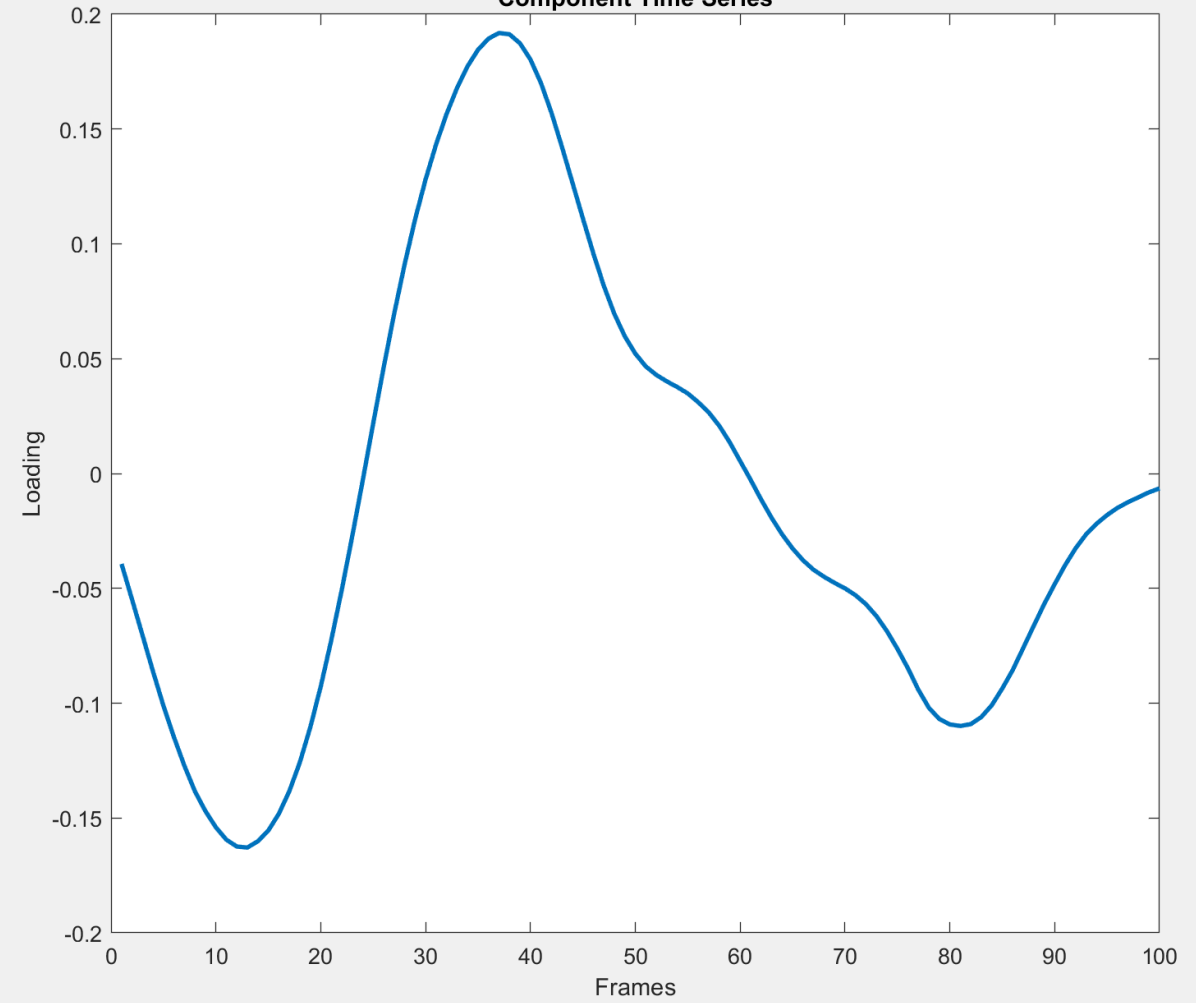


PCA Component 2: 17.38 Percent of Total Variance Explained.

Component Image

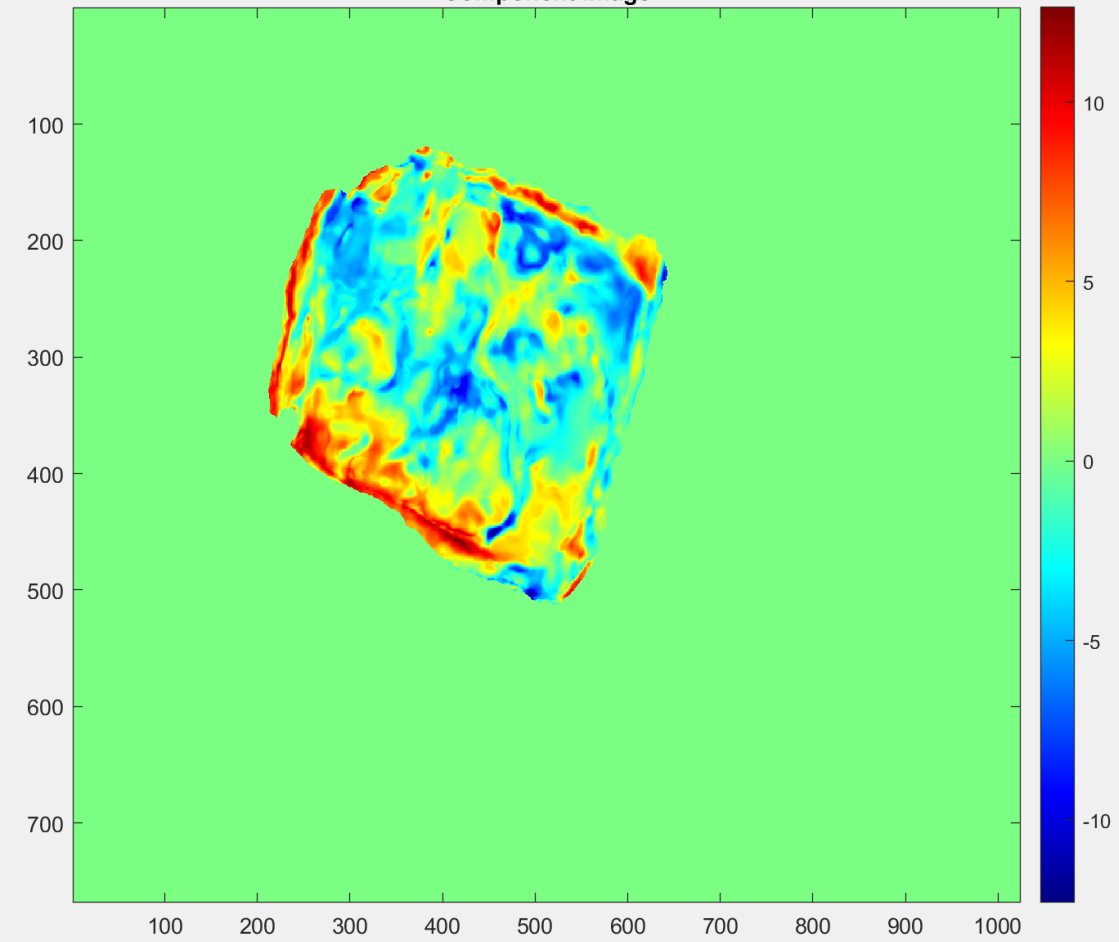


Component Time Series

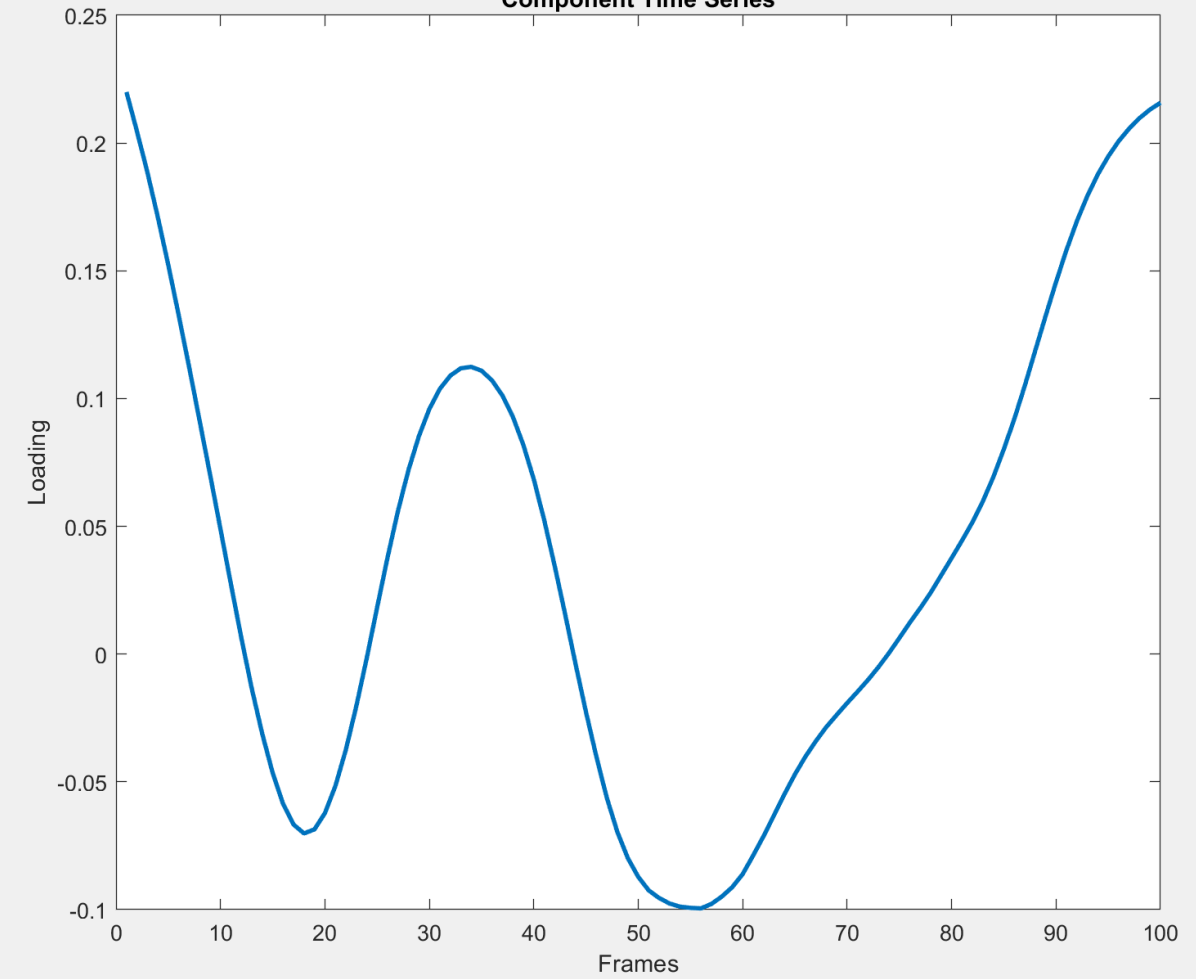


PCA Component 3: 10.17 Percent of Total Variance Explained.

Component Image

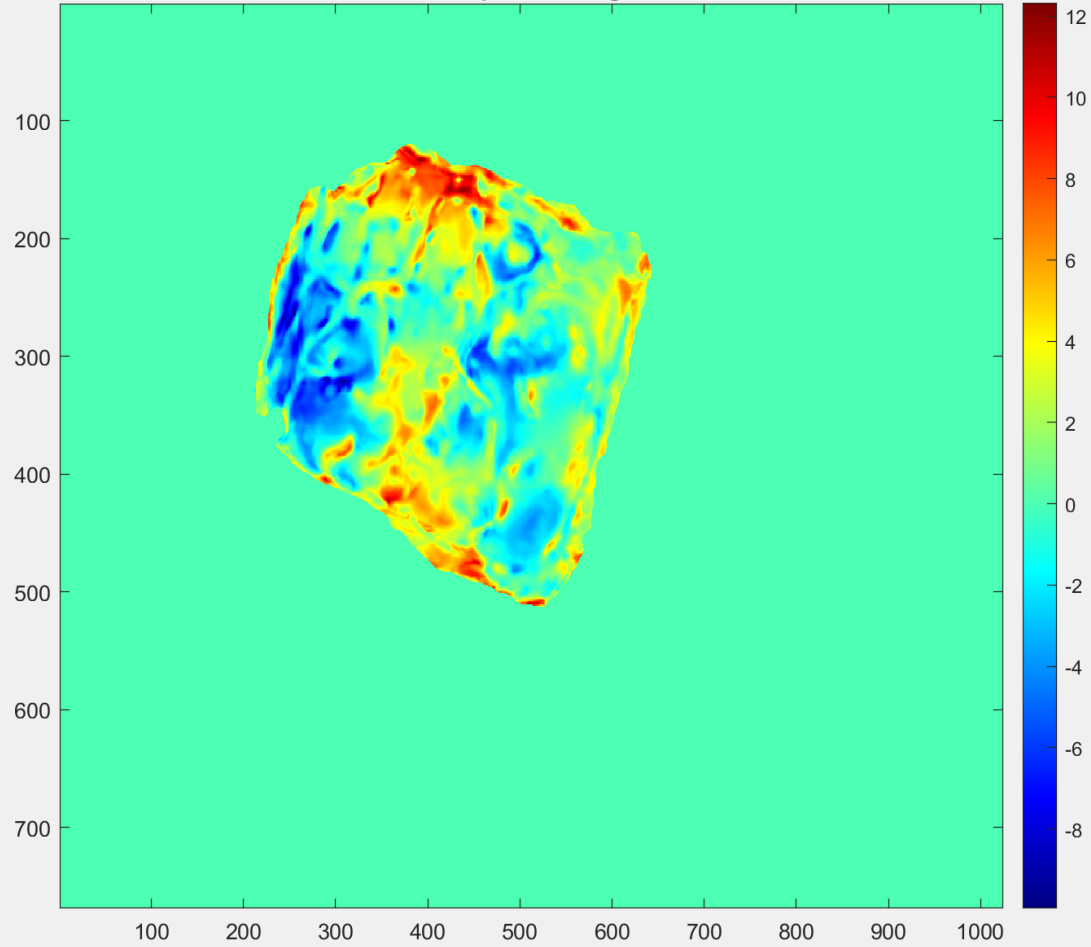


Component Time Series

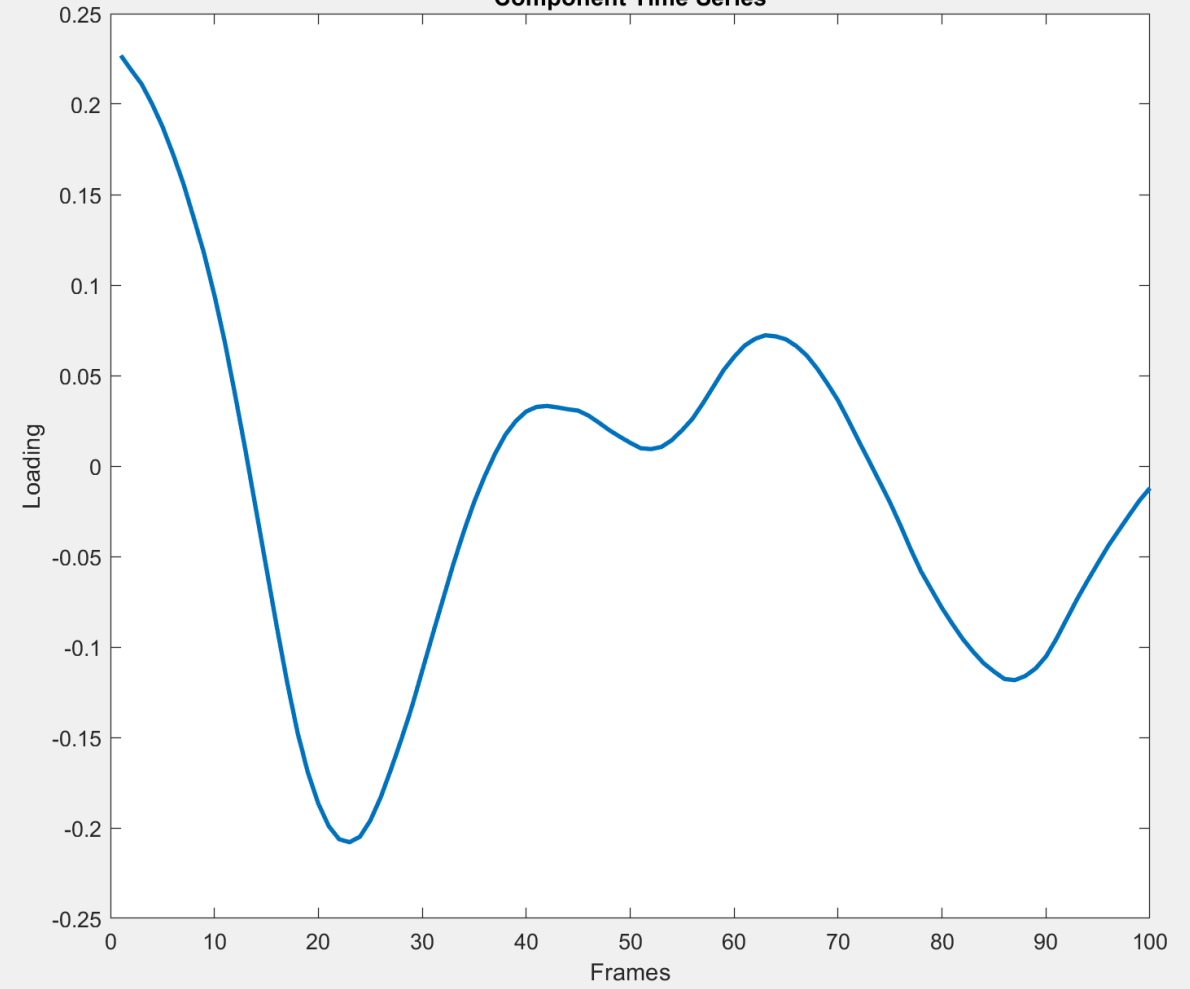


PCA Component 4: 7.34 Percent of Total Variance Explained.

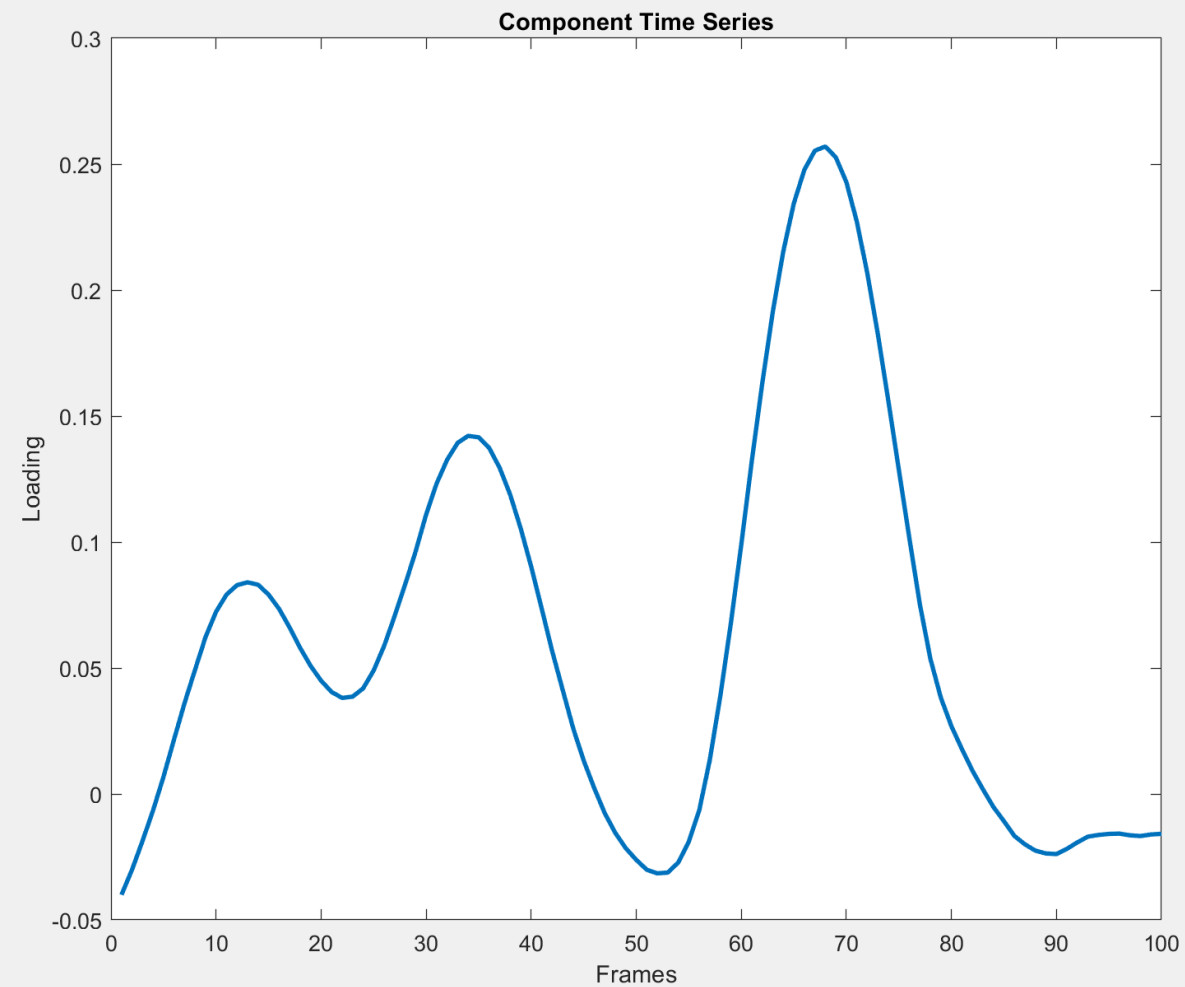
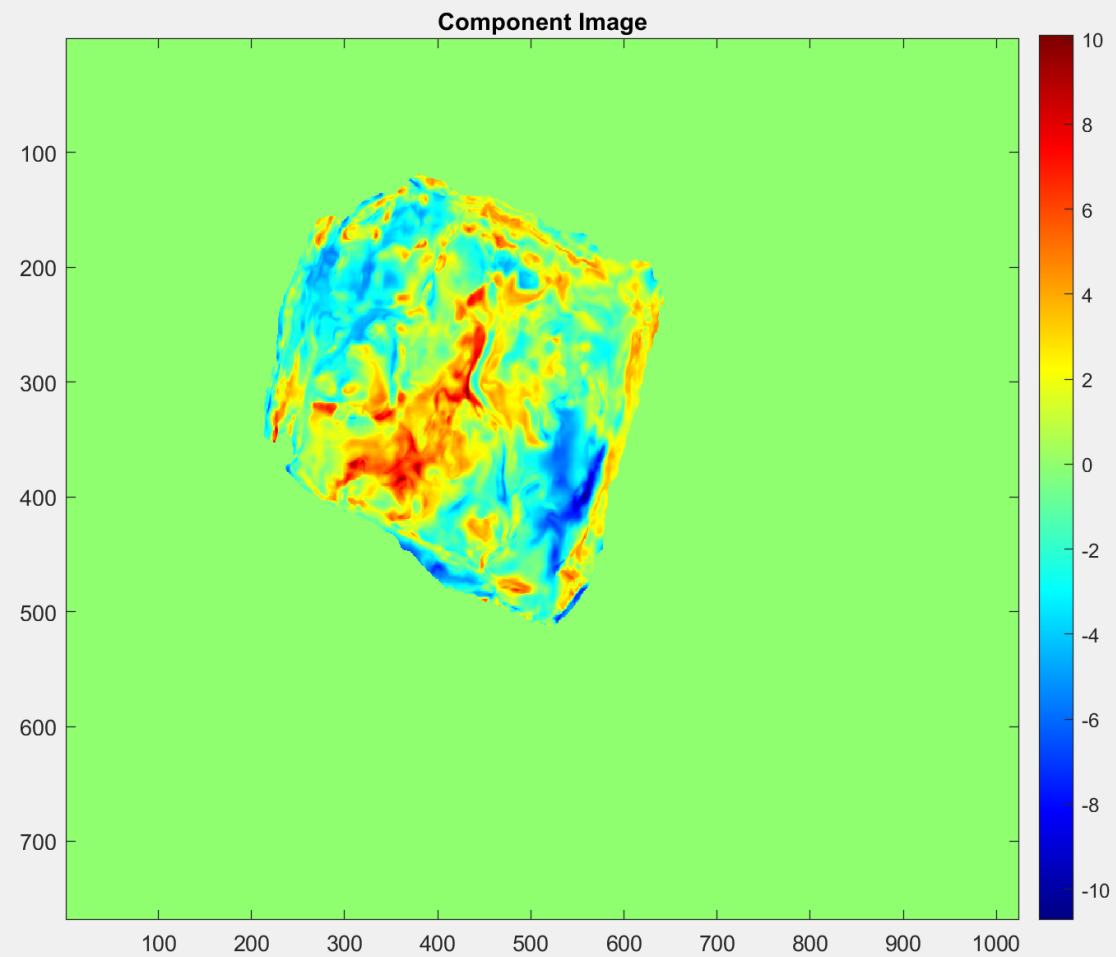
Component Image



Component Time Series

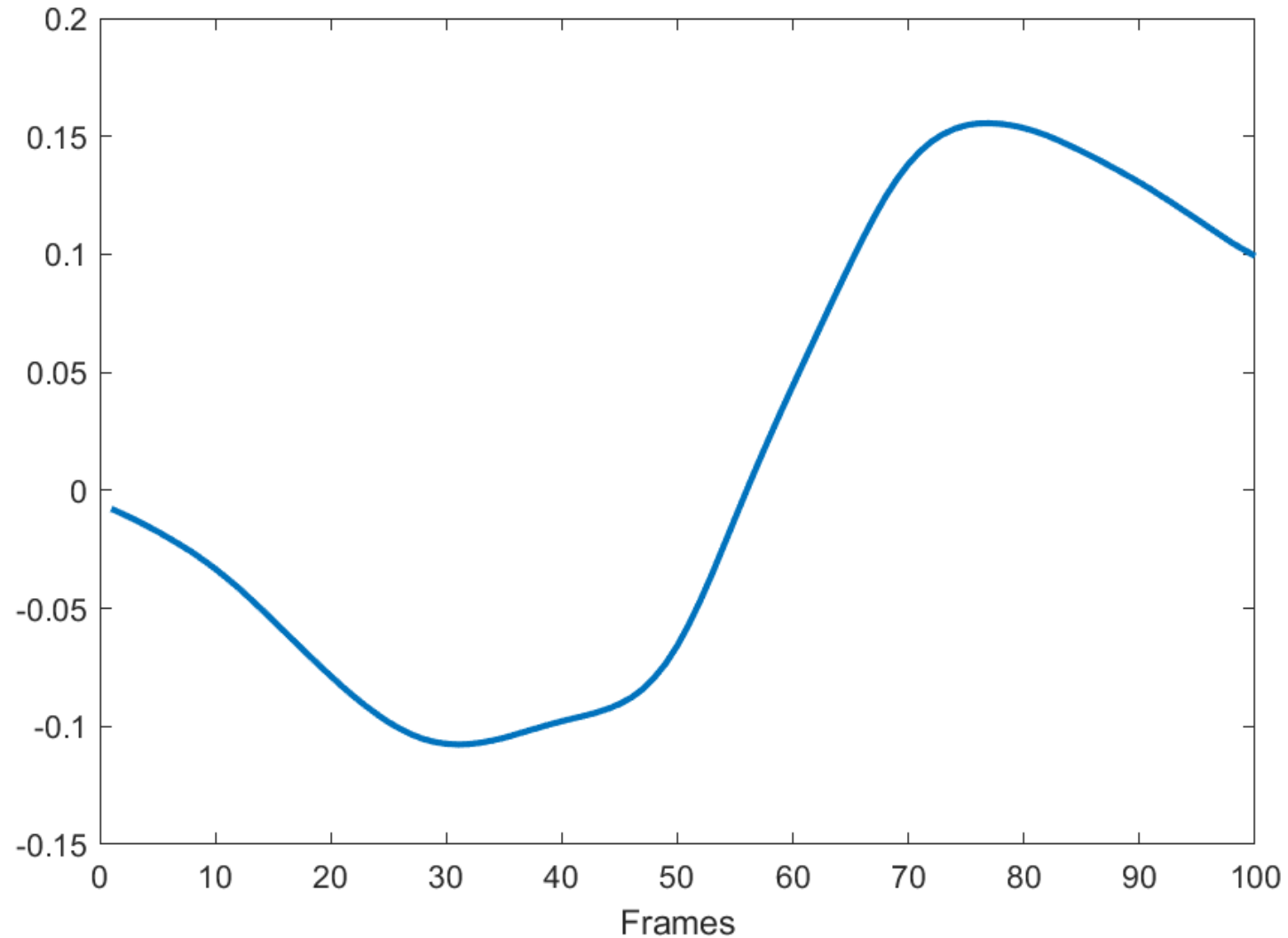


PCA Component 5: 5.27 Percent of Total Variance Explained.

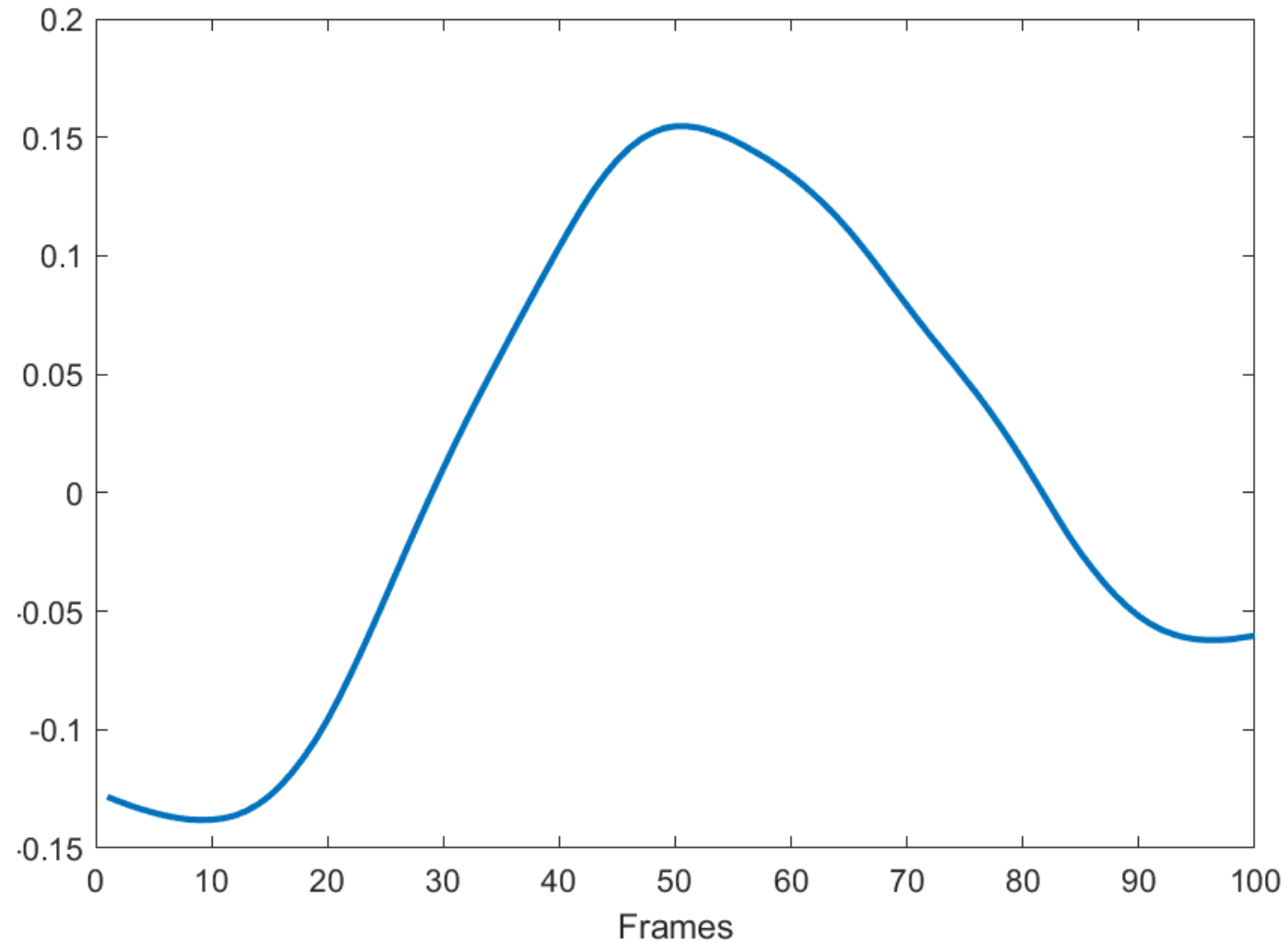


Part 2: Group PCA Time Series

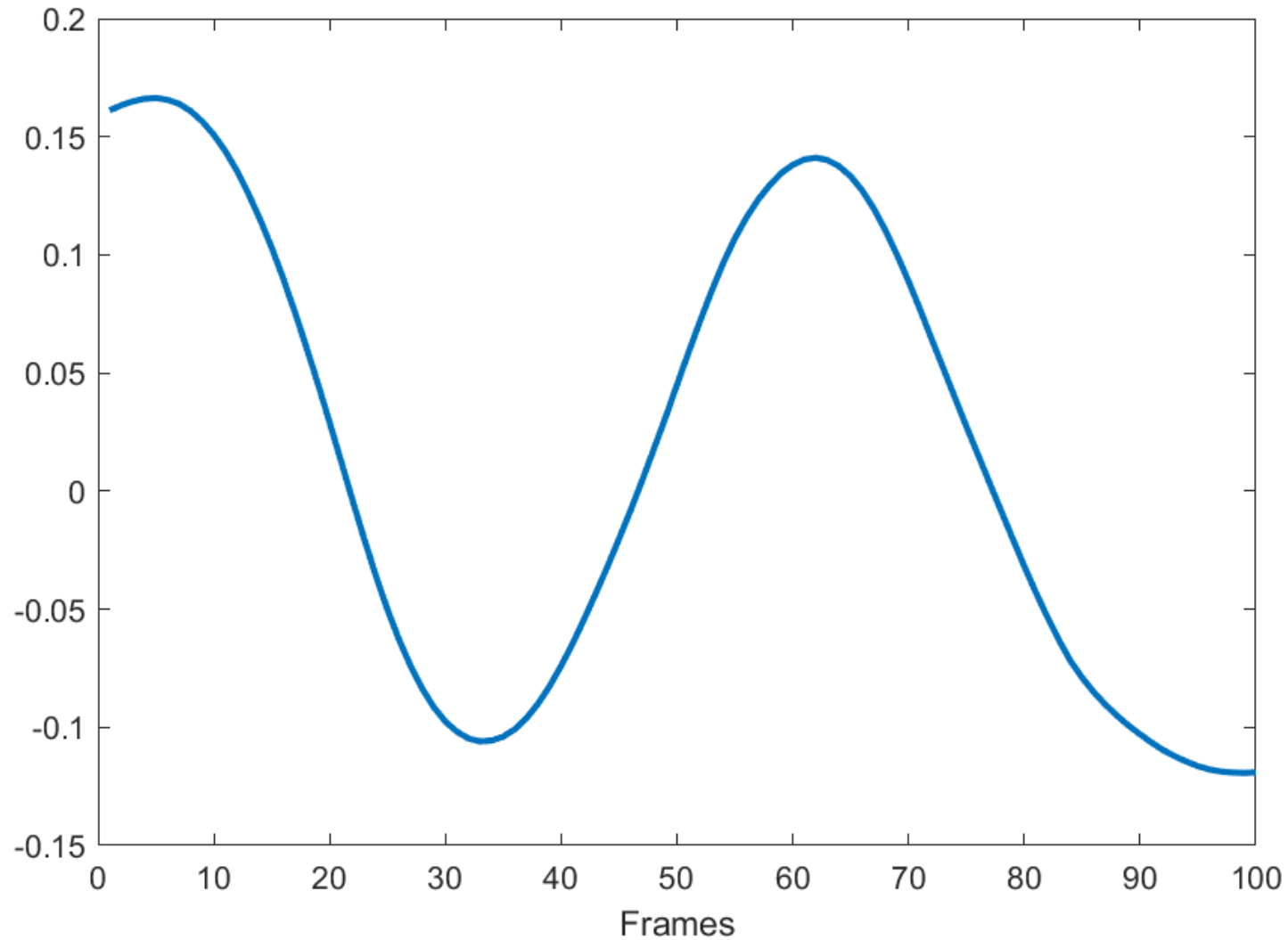
Component 1 Time Series: 34% of Variance



Component 2 Time Series: 19% of Variance

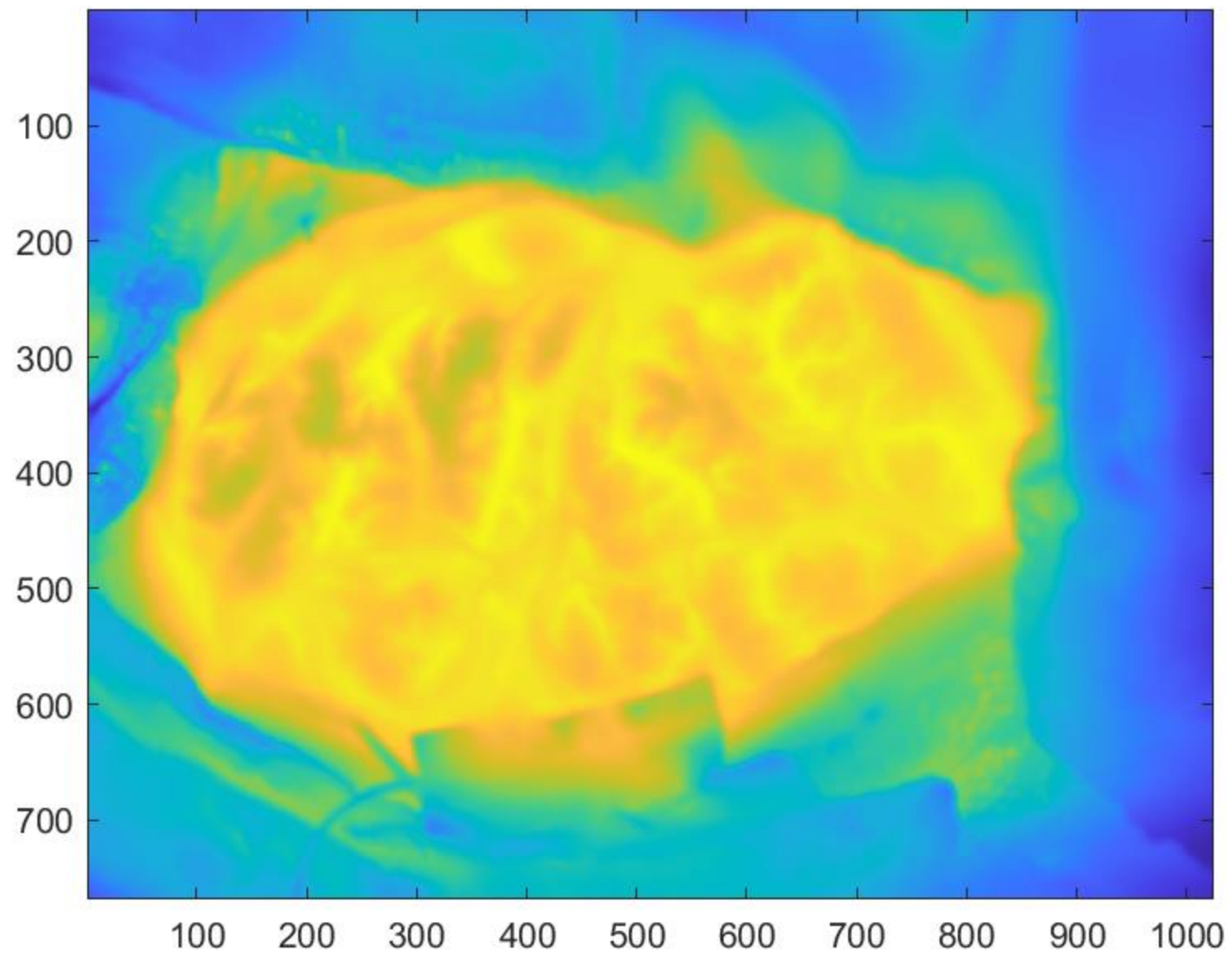


Component 3 Time Series: 13% of Variance



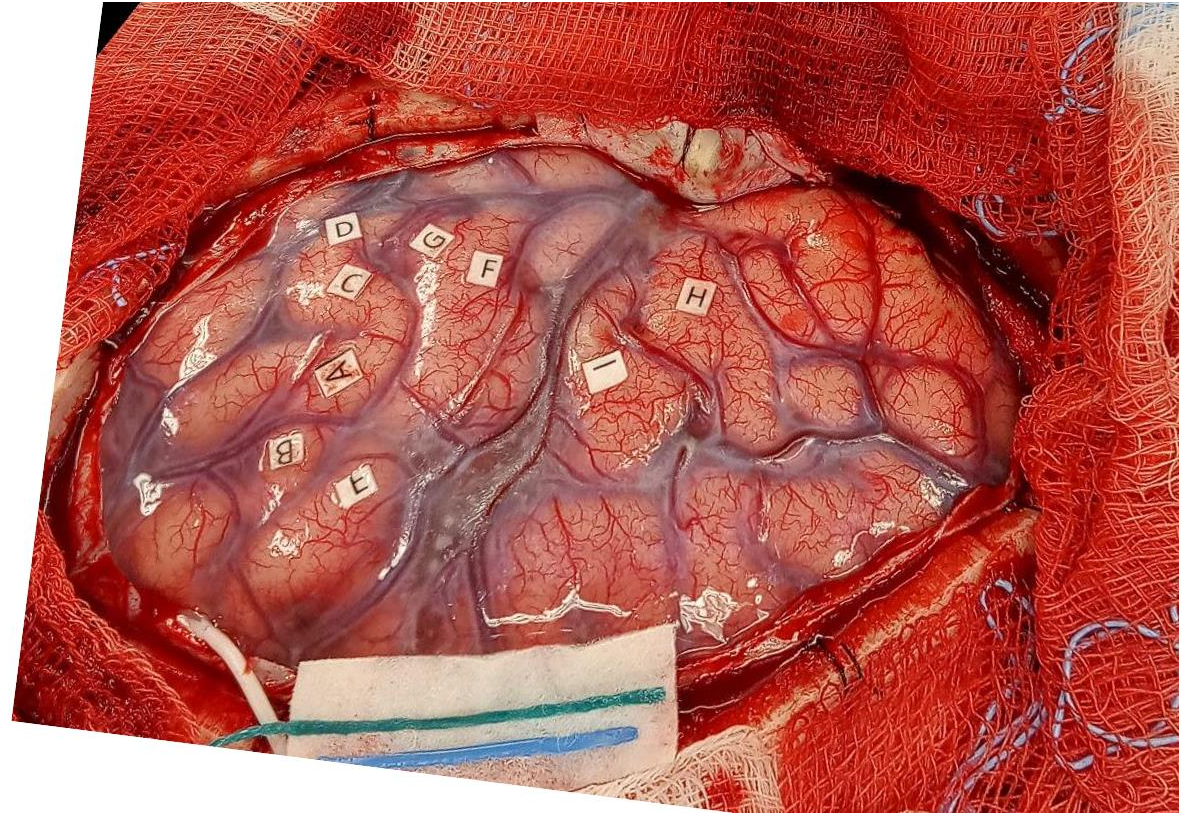
Part 3: Group PCA Components

Patient 1: Lip Pursing



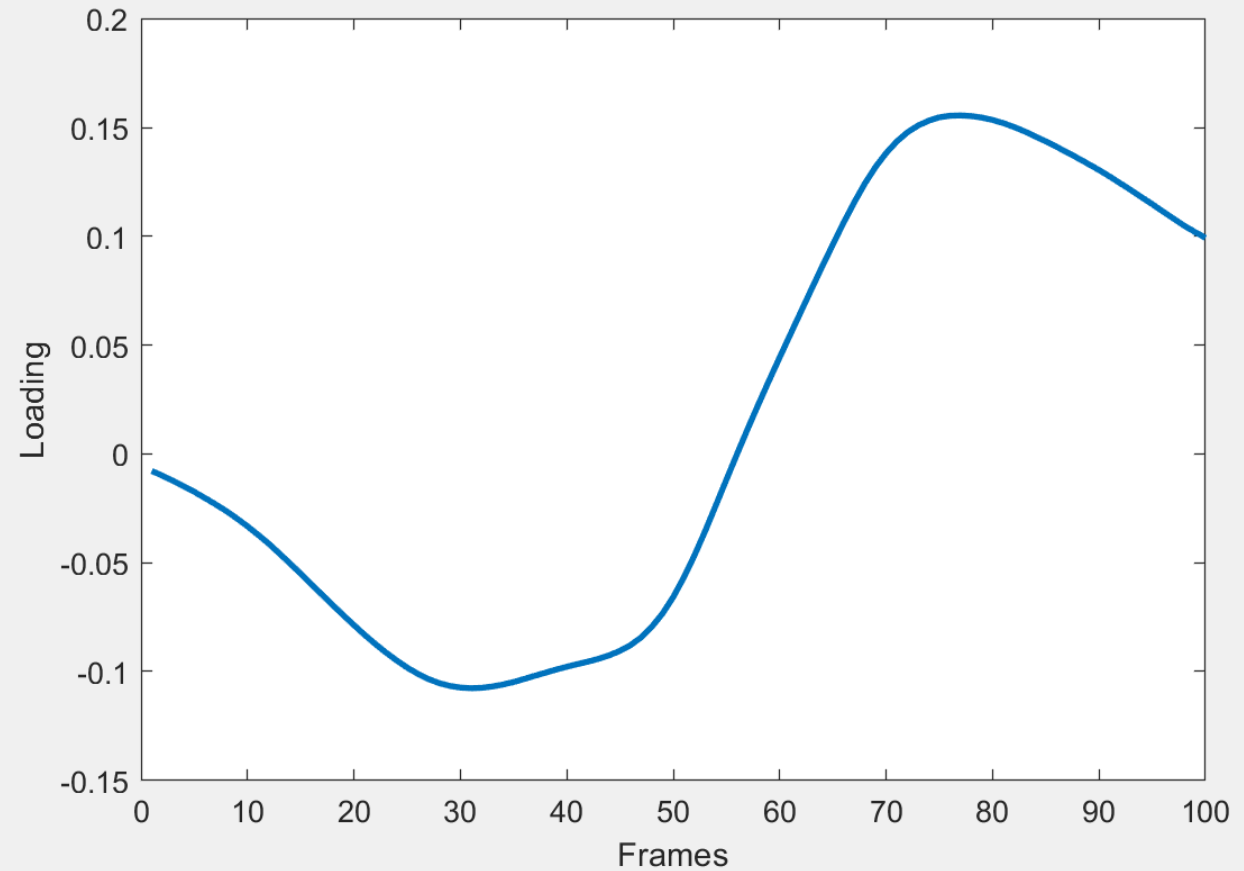
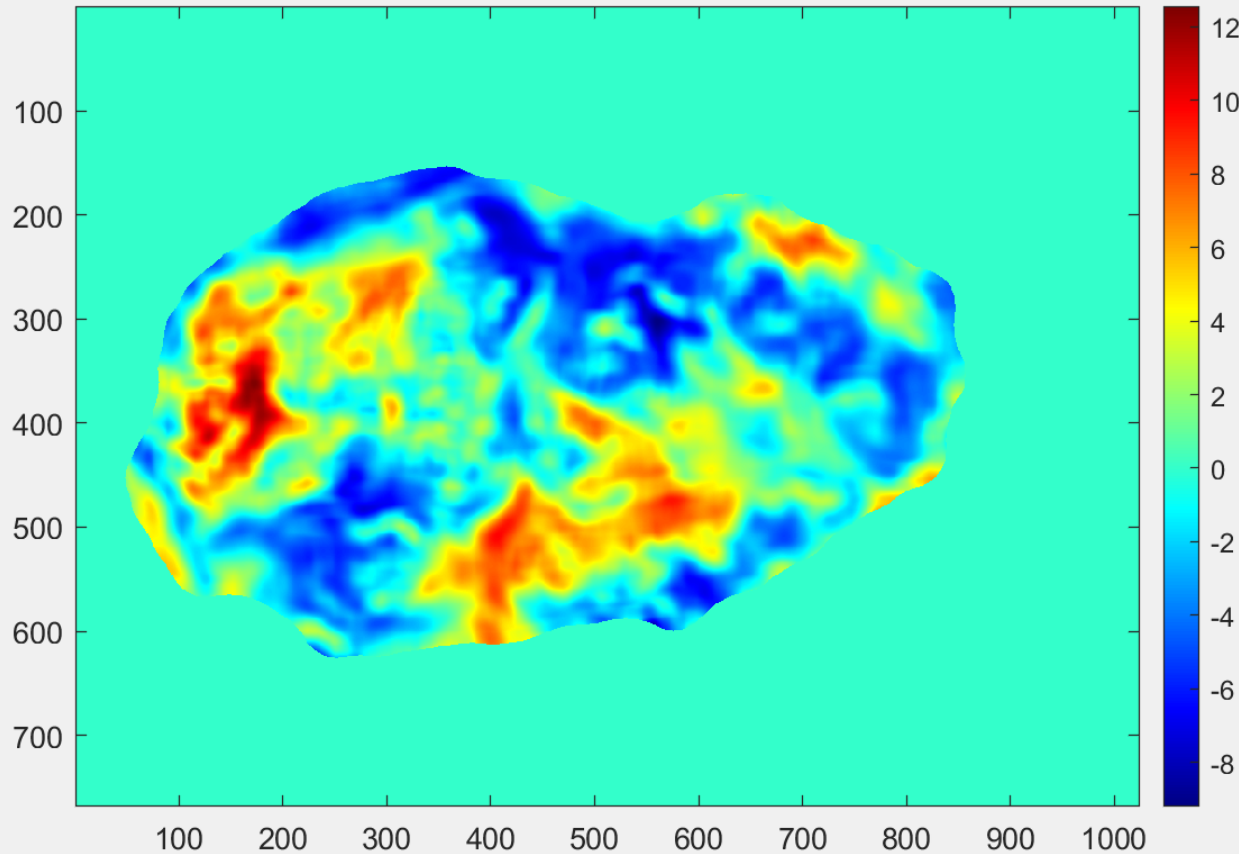
P1 (Lip Pursing) DES Key

- A. Teeth, Sensory (right)
- B. Lips (right) tingling
- C. Teeth (right)
- D. Teeth, tongue (right)**
- E. Lips (right)**
- F. Speech arrest**
- G. Speech arrest**
- H. Anomia
- I. Anomia



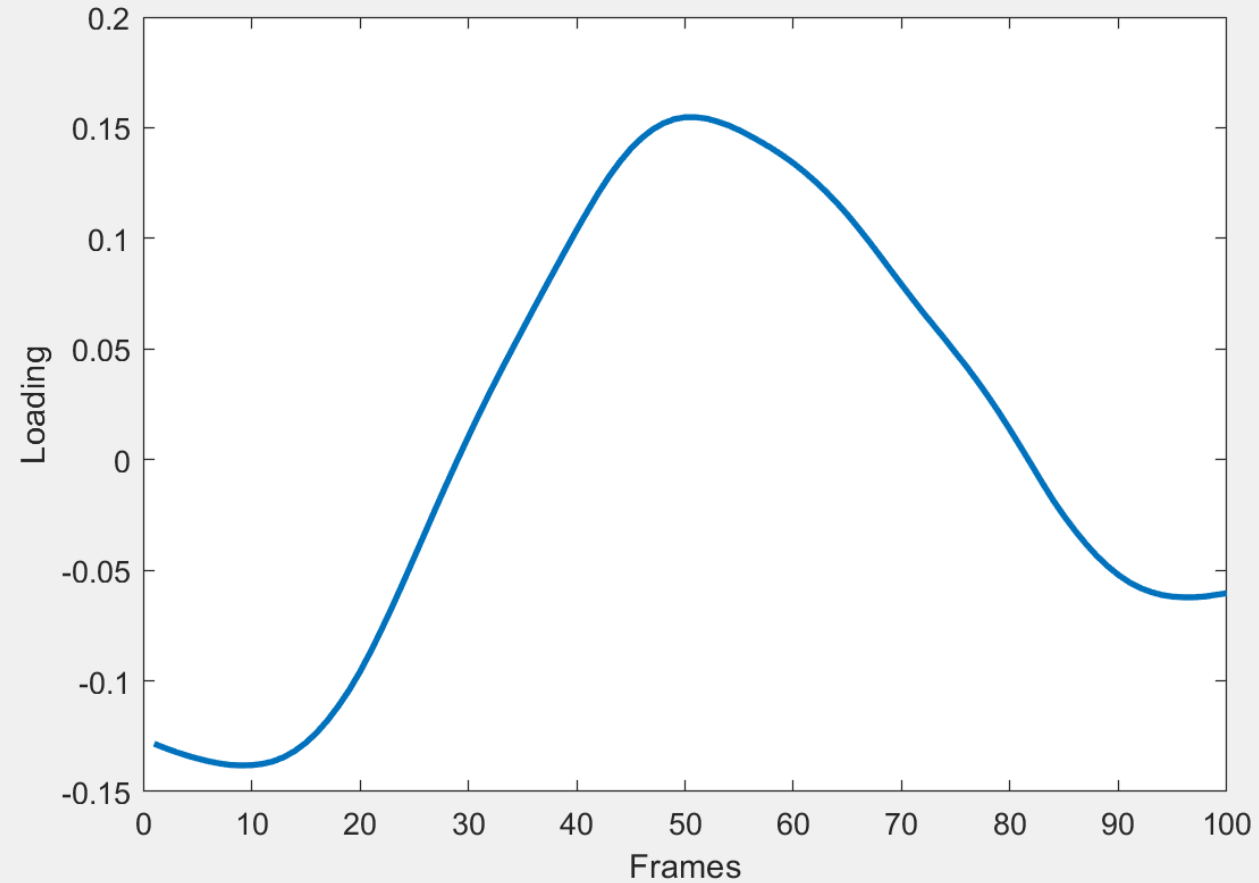
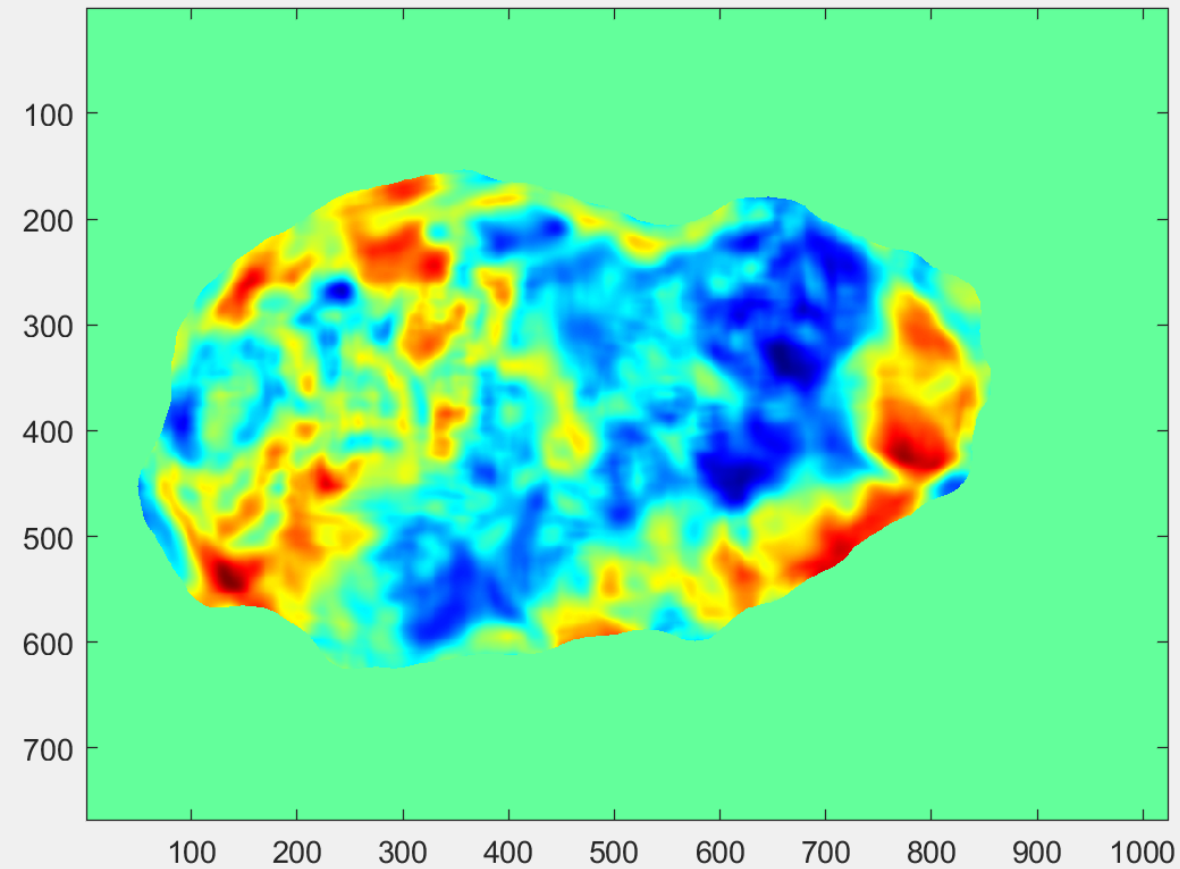
P1 (Lip Pursing) Group Component 1

Component 1 Map for Patient 1: 34% of variance explained



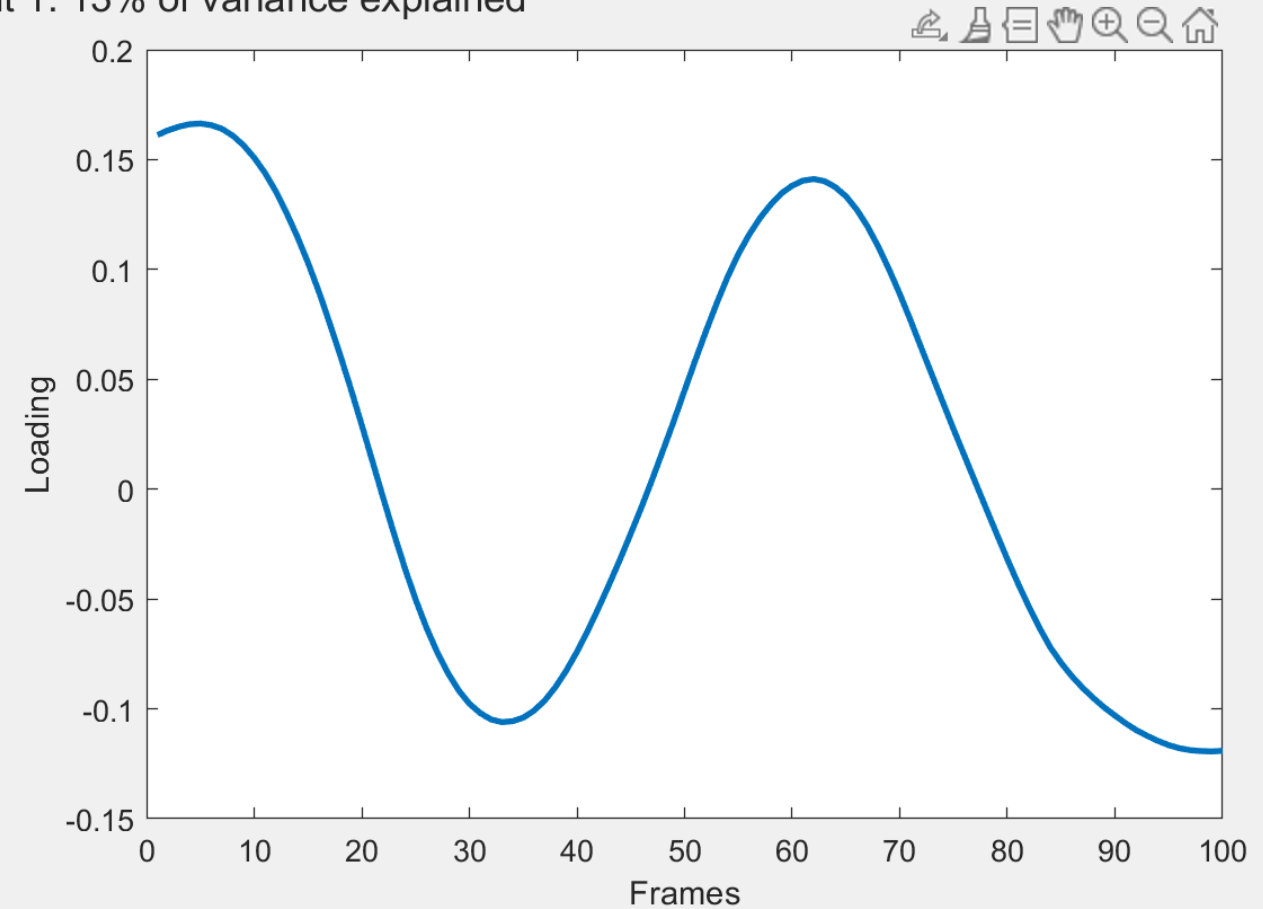
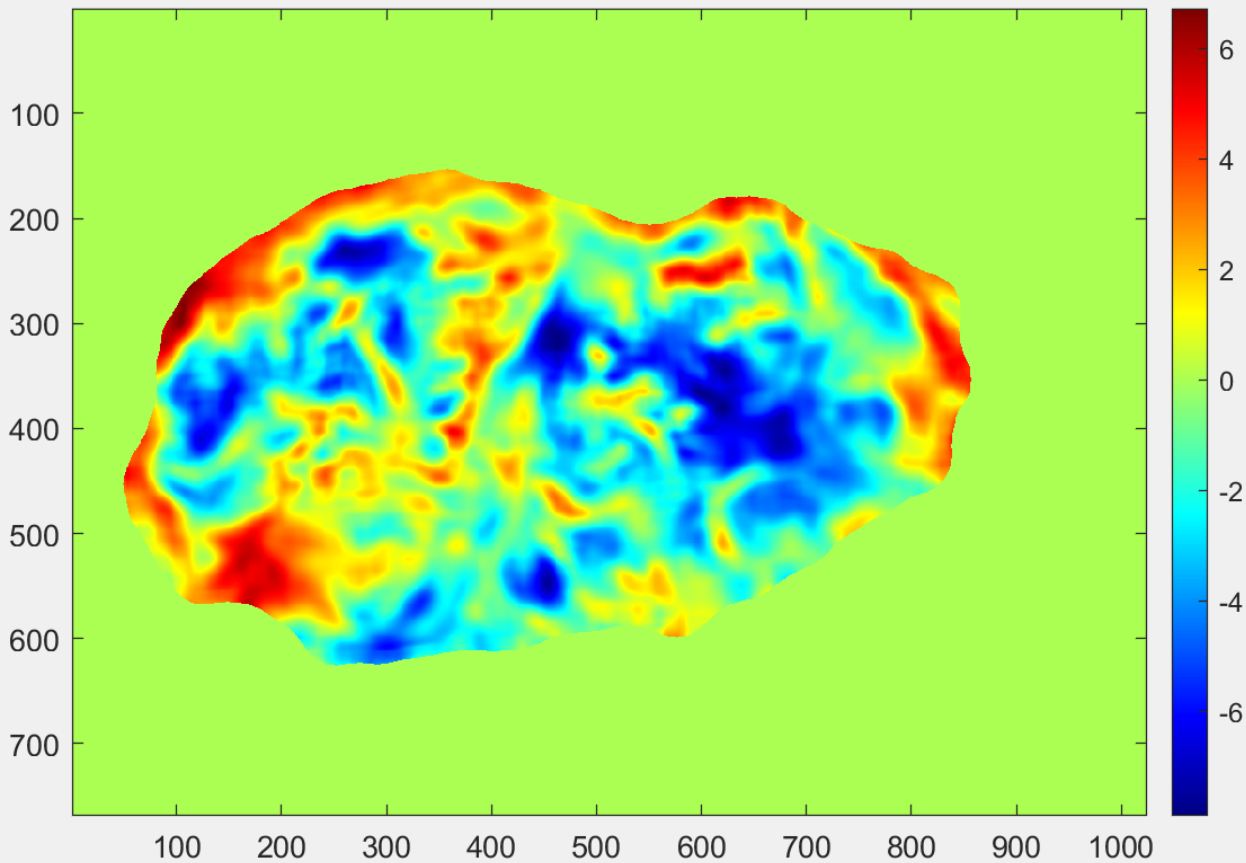
P1 (Lip Pursing) Group Component 2

Component 2 Map for Patient 1: 19% of variance explained

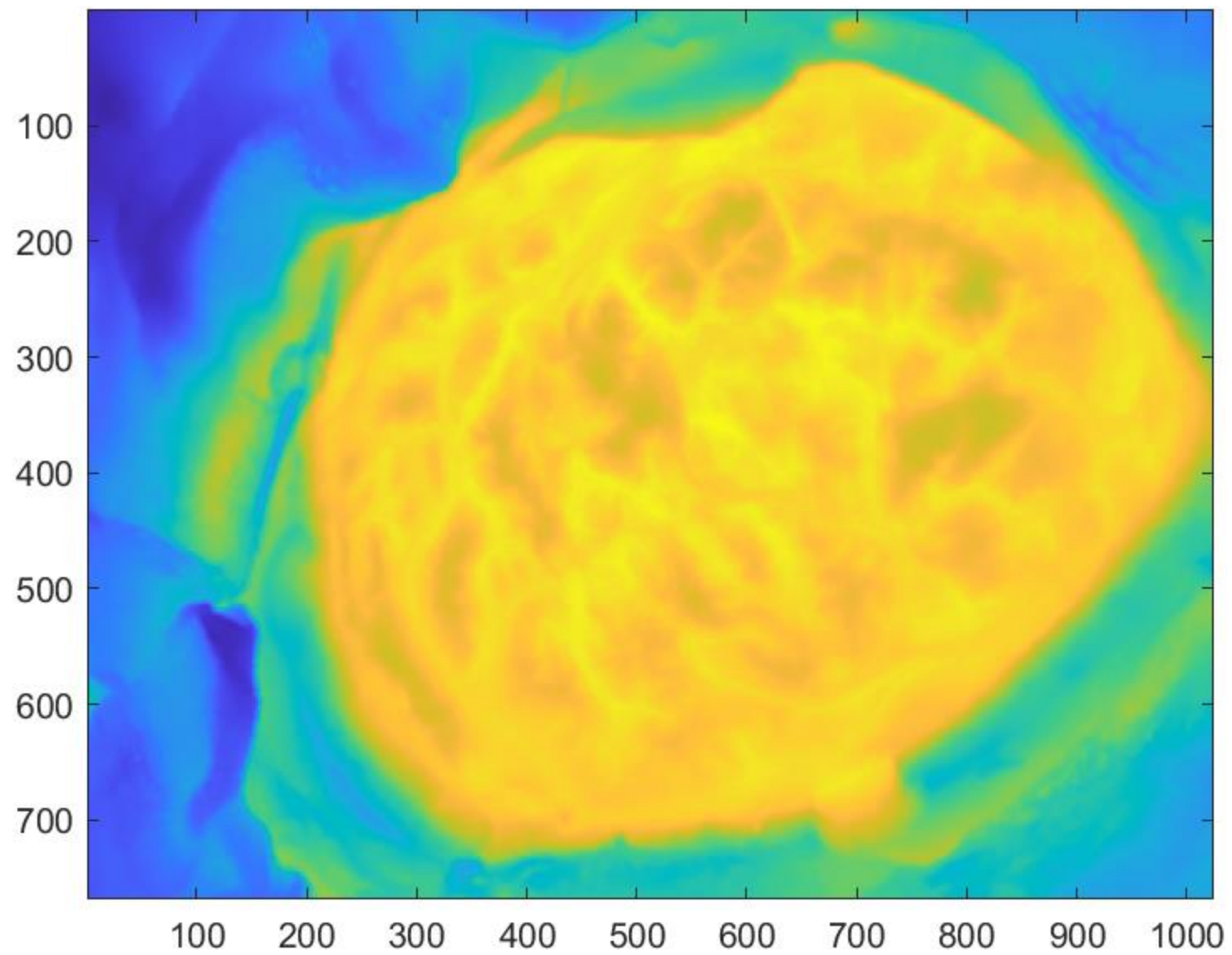


P1 (Lip Pursing) Group Component 3

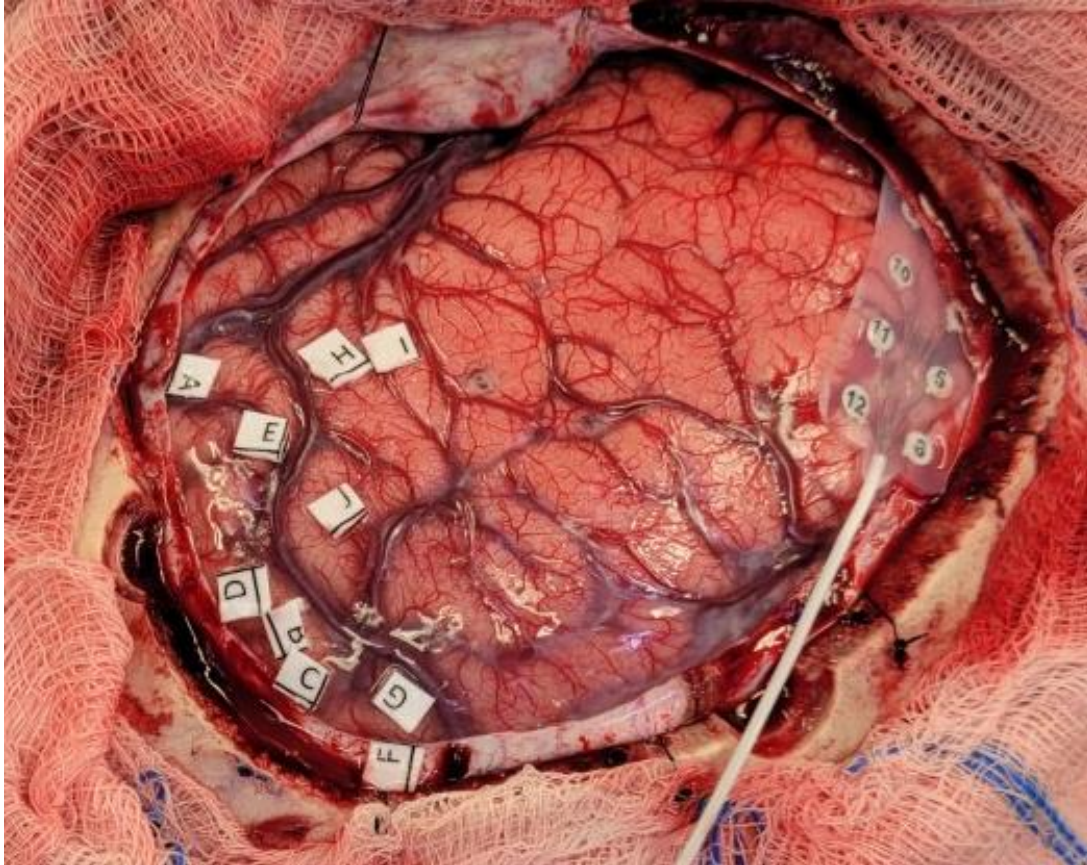
Component 3 Map for Patient 1: 13% of variance explained



Patient 2: Lip Pursing



P2 (Lip Pursing) DES Key



A – Tongue tingling all over

B – Thumb sensory

C – Right hand sensory (3 & 4)

D – Thumb tingling

E – Tongue tingling & movement

F – Wrist flexion

G – Thumb movement

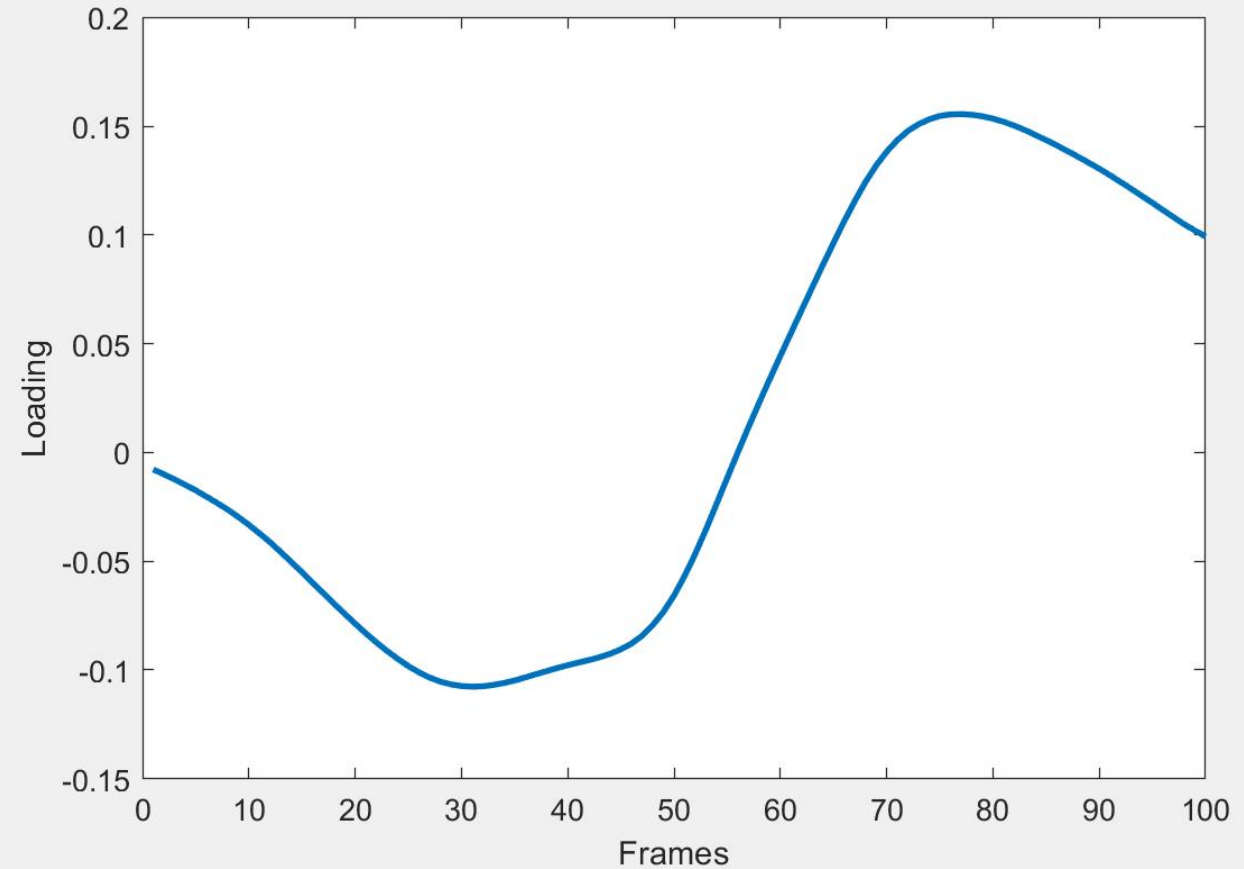
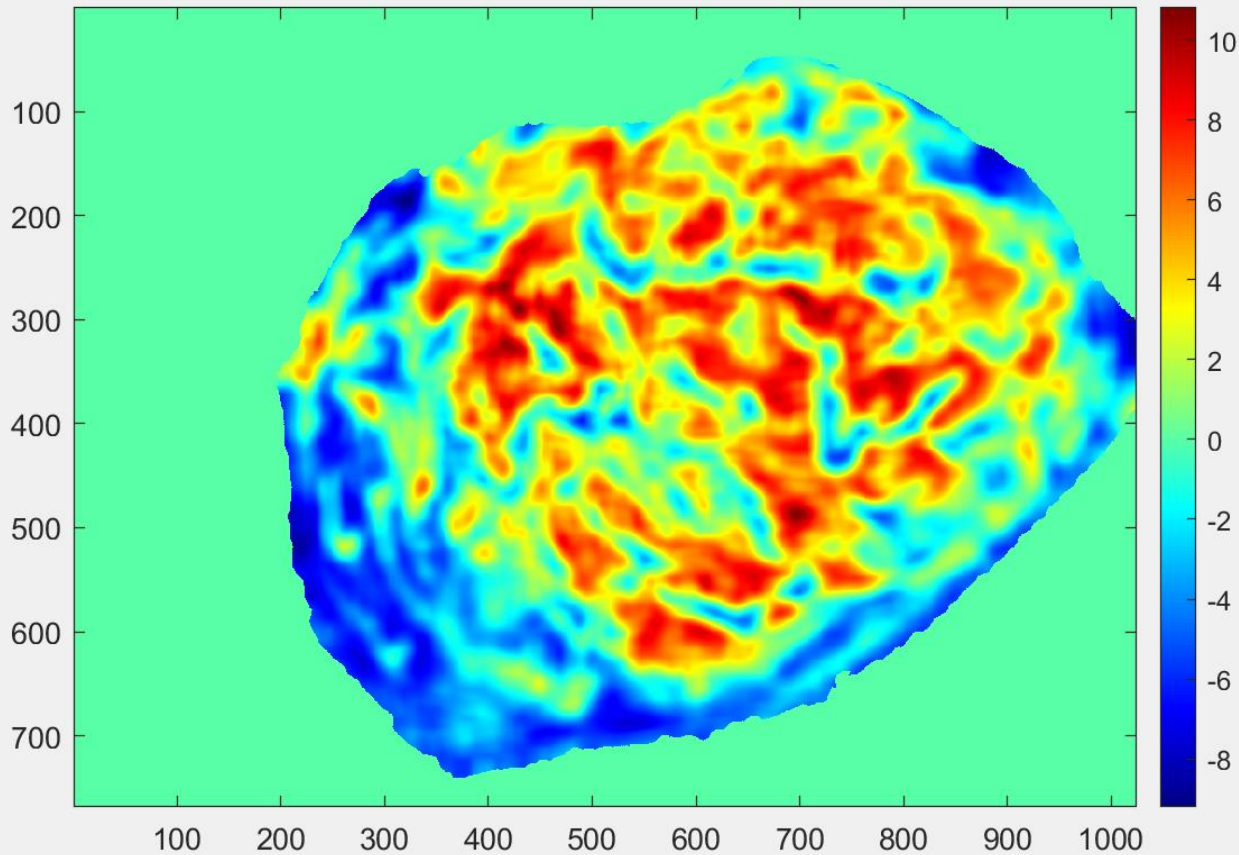
H – Hesitation

I – Hesitation

J – Dysarthria

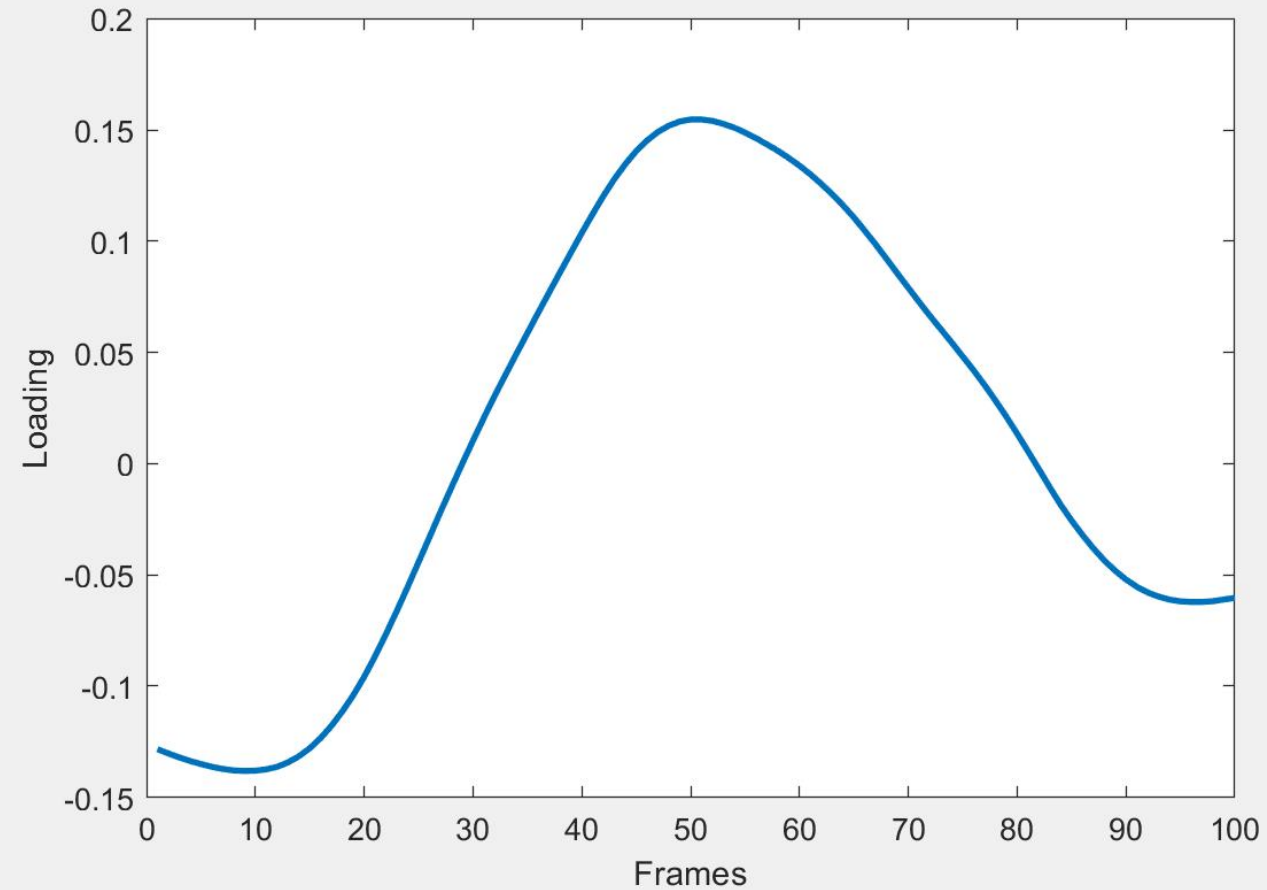
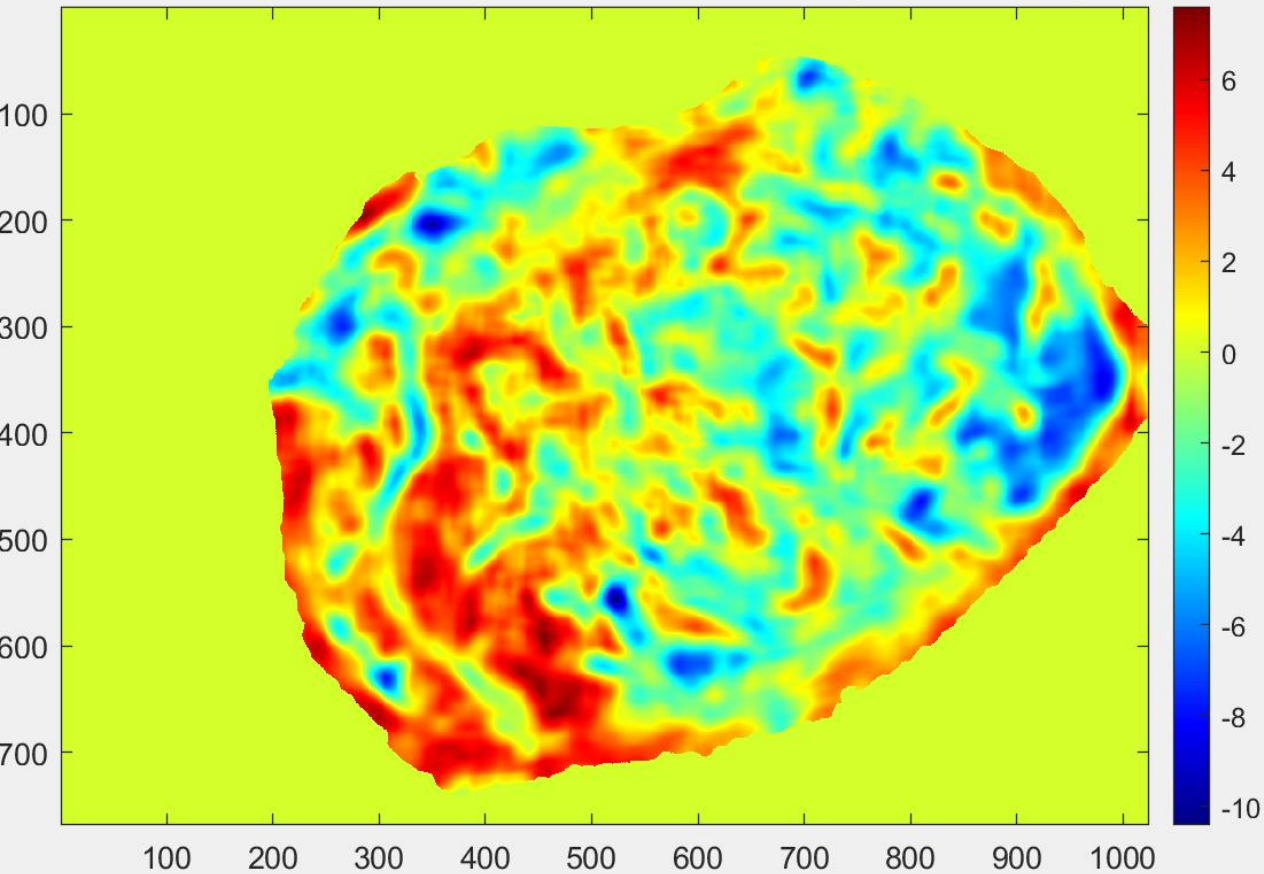
P2 (Lip Pursing) Group Component 1

Component 1 Map for Patient 2: 34% of variance explained

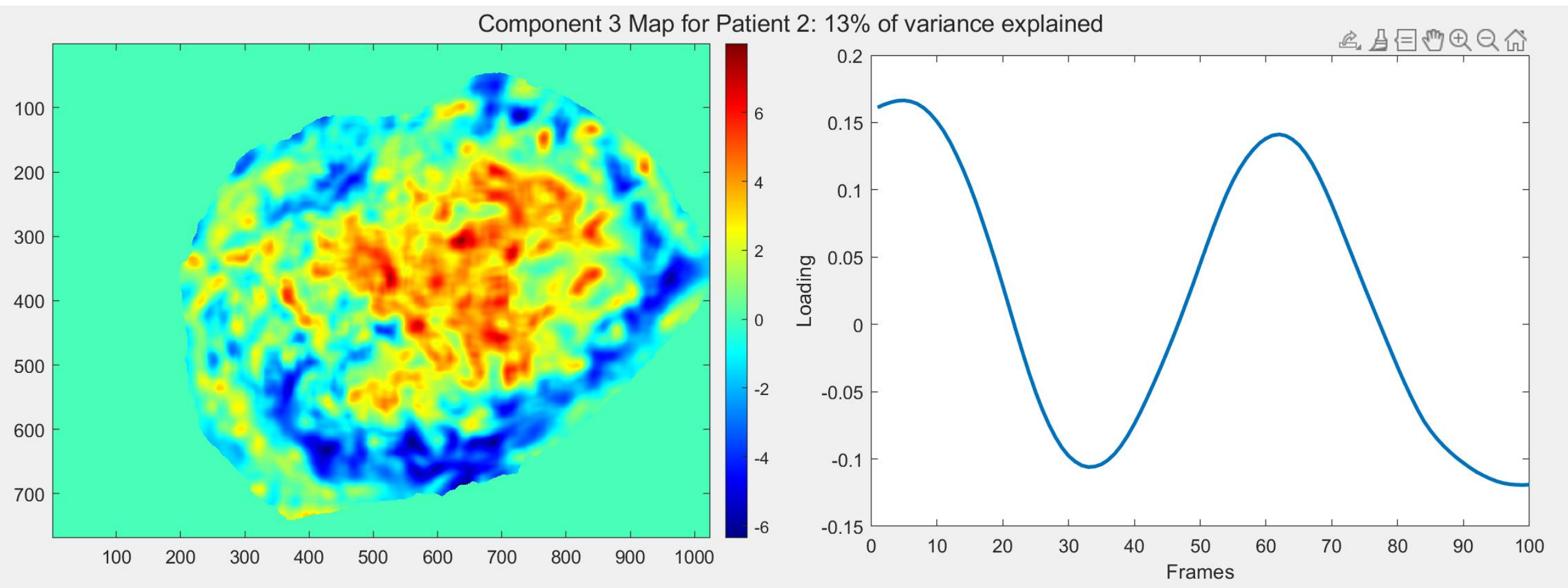


P2 (Lip Pursing) Group Component 2

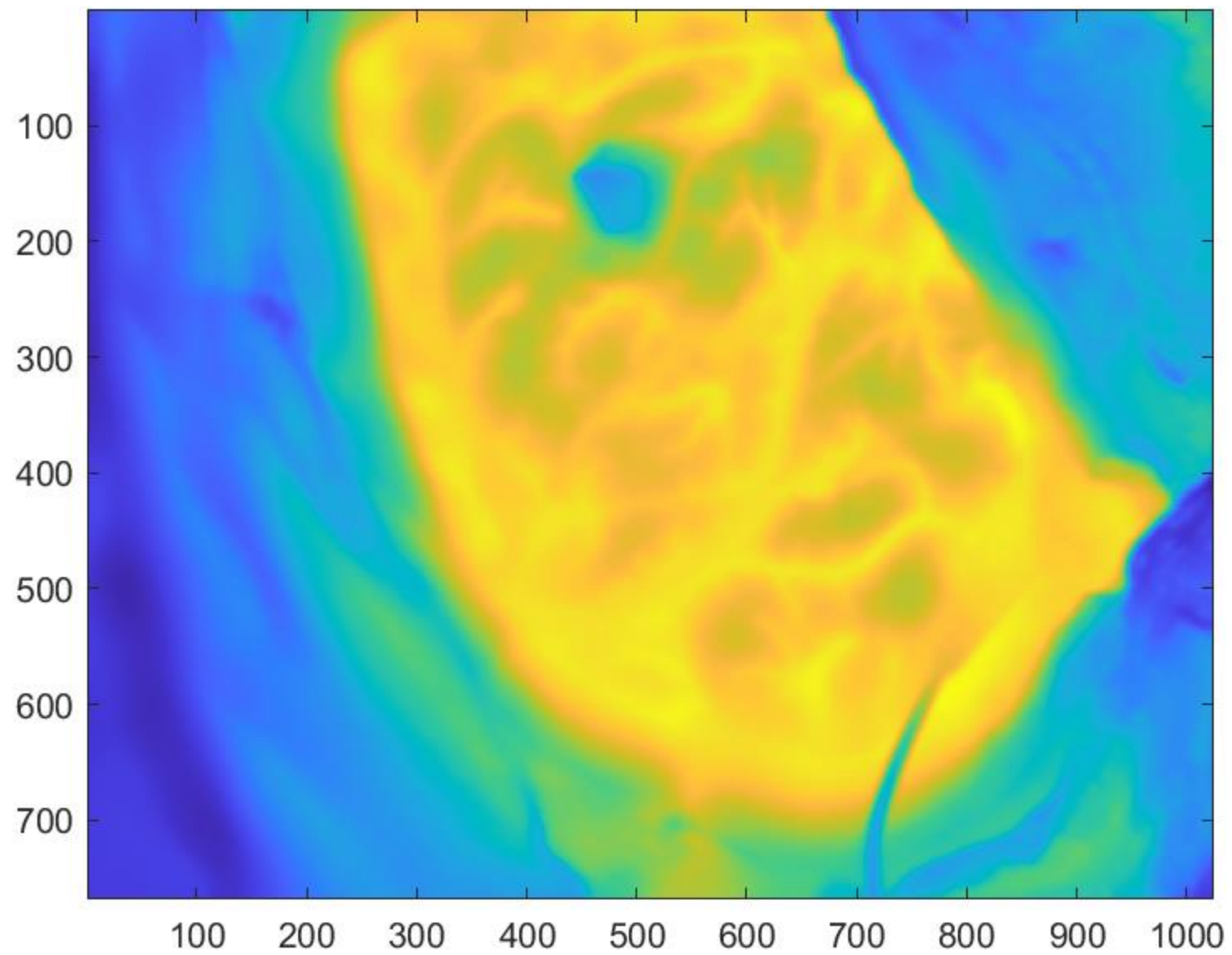
Component 2 Map for Patient 2: 19% of variance explained



P2 (Lip Pursing) Group Component 3

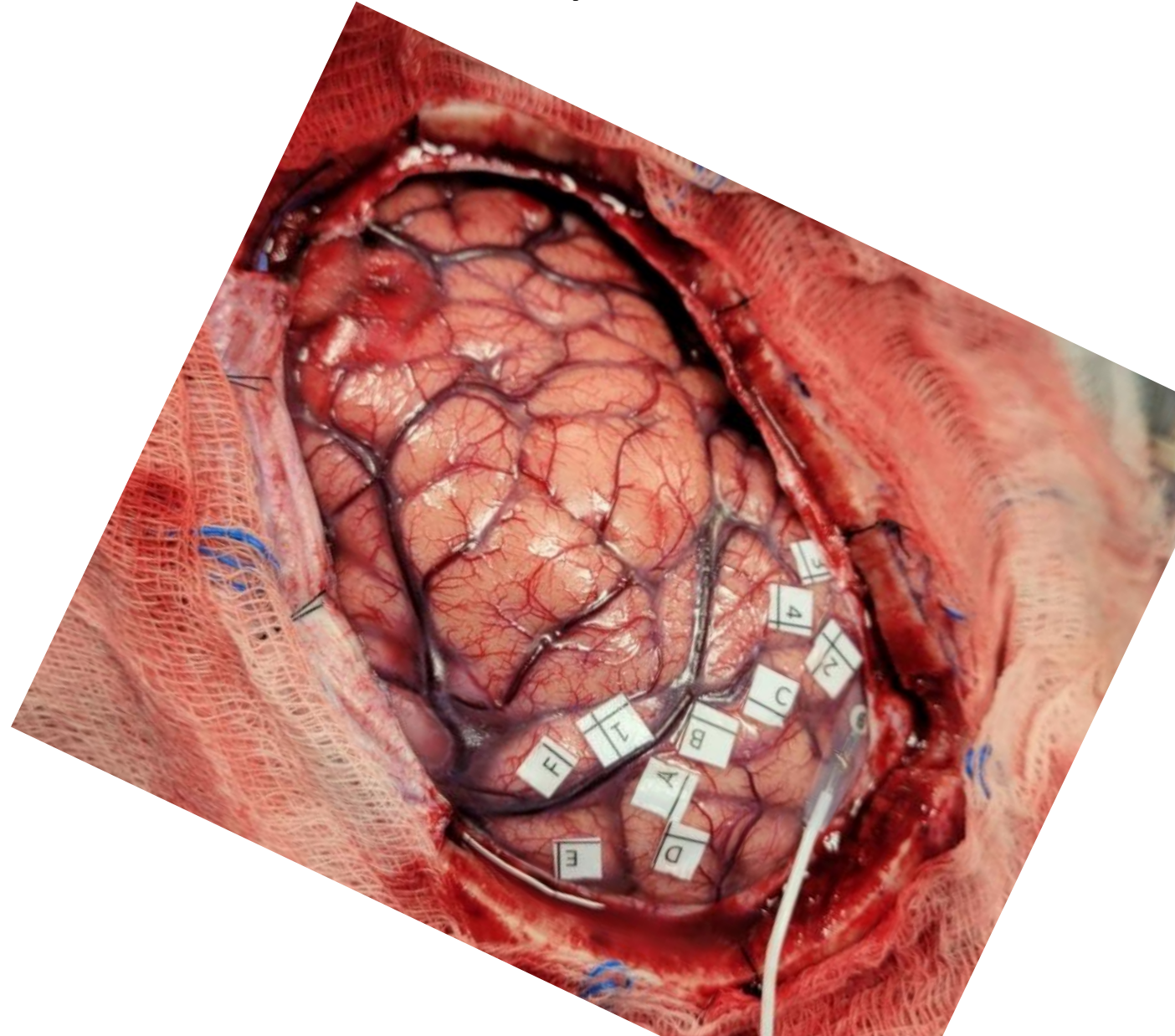


Patient 3: Hand Motor



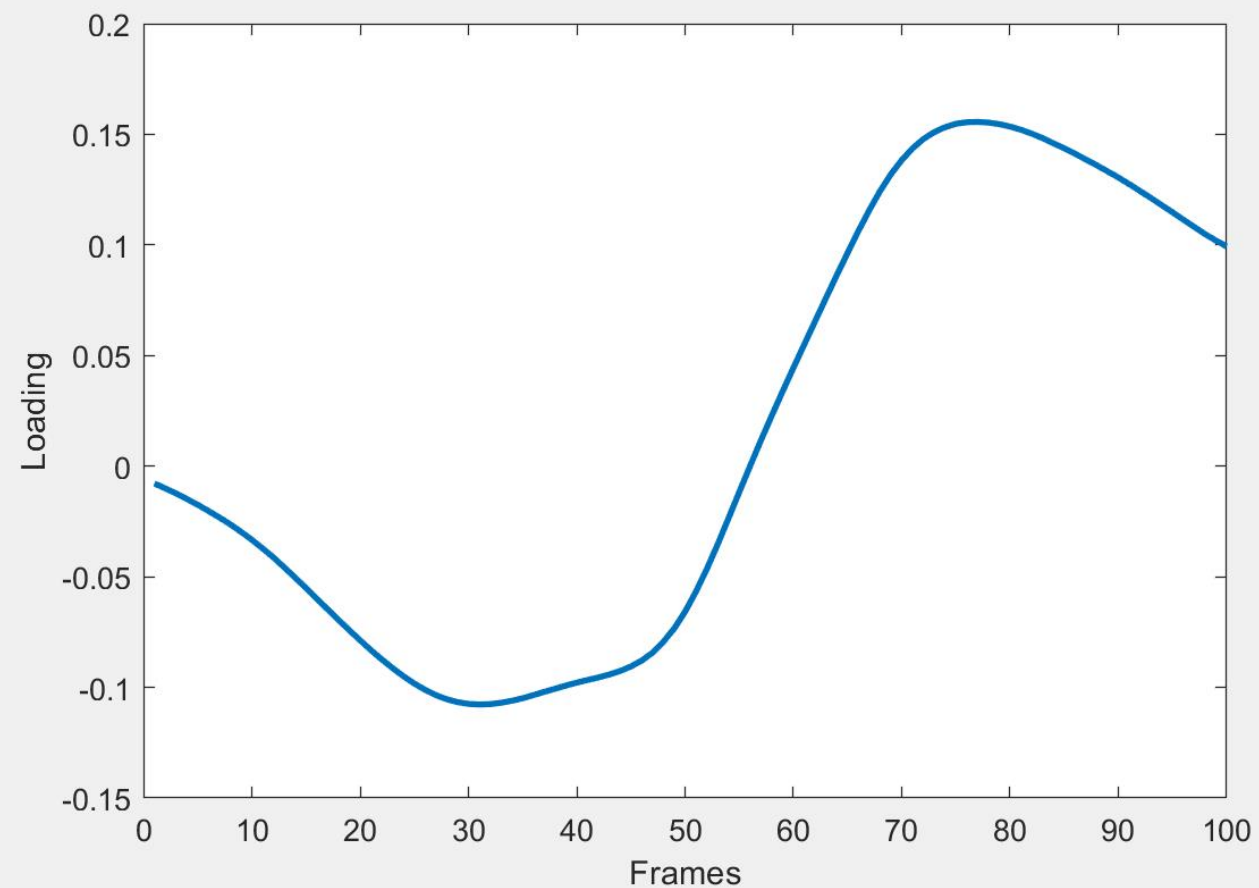
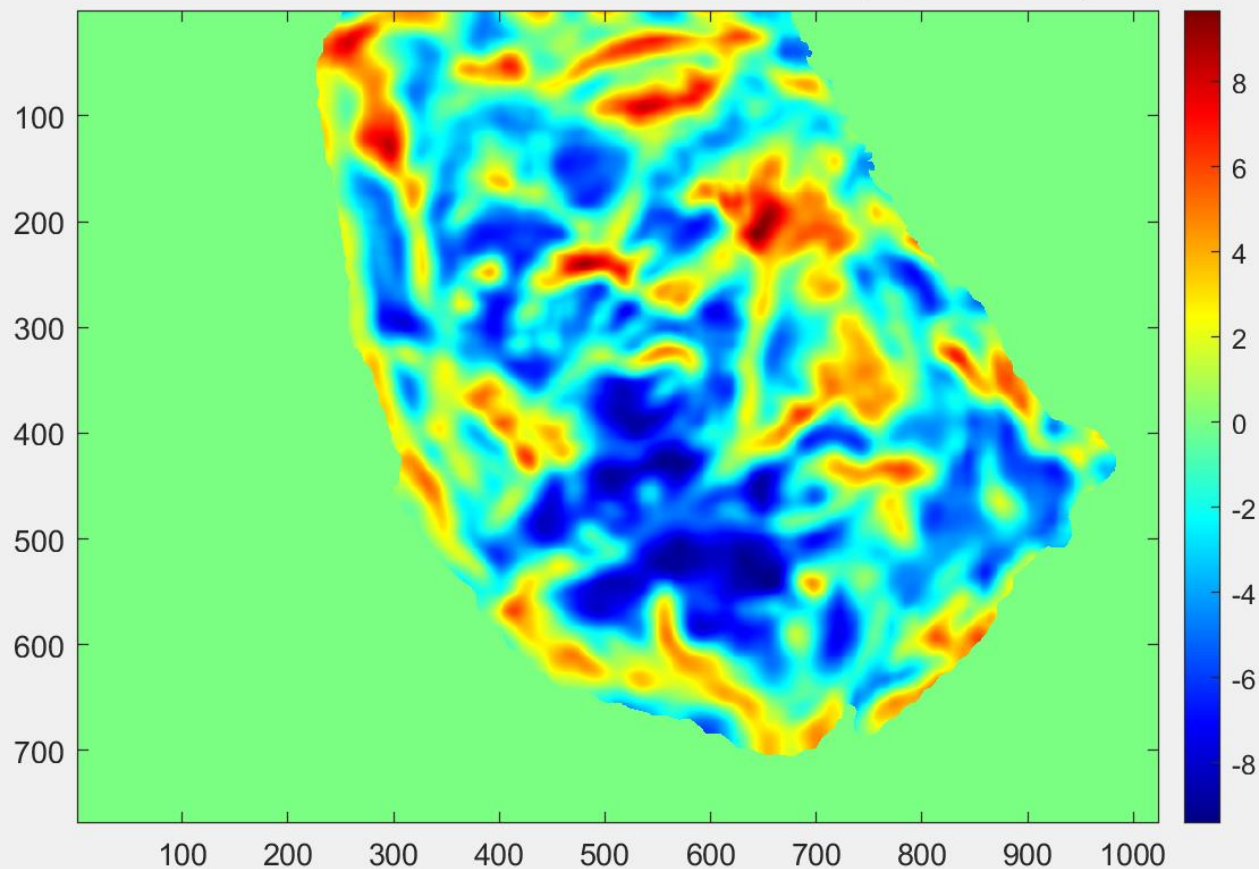
P3 (Hand Motor) DES Key

- A – Middle finger tingling
- B – 2nd finger
- C – Thumb
- D – Left pinky / sensory
- **E – Left arm + hand motor**
- F – Left wrist
- 1 – wrist
- 2 – jaw sensation
- 3 – mouth motor
- 4 – lateral mouth motor



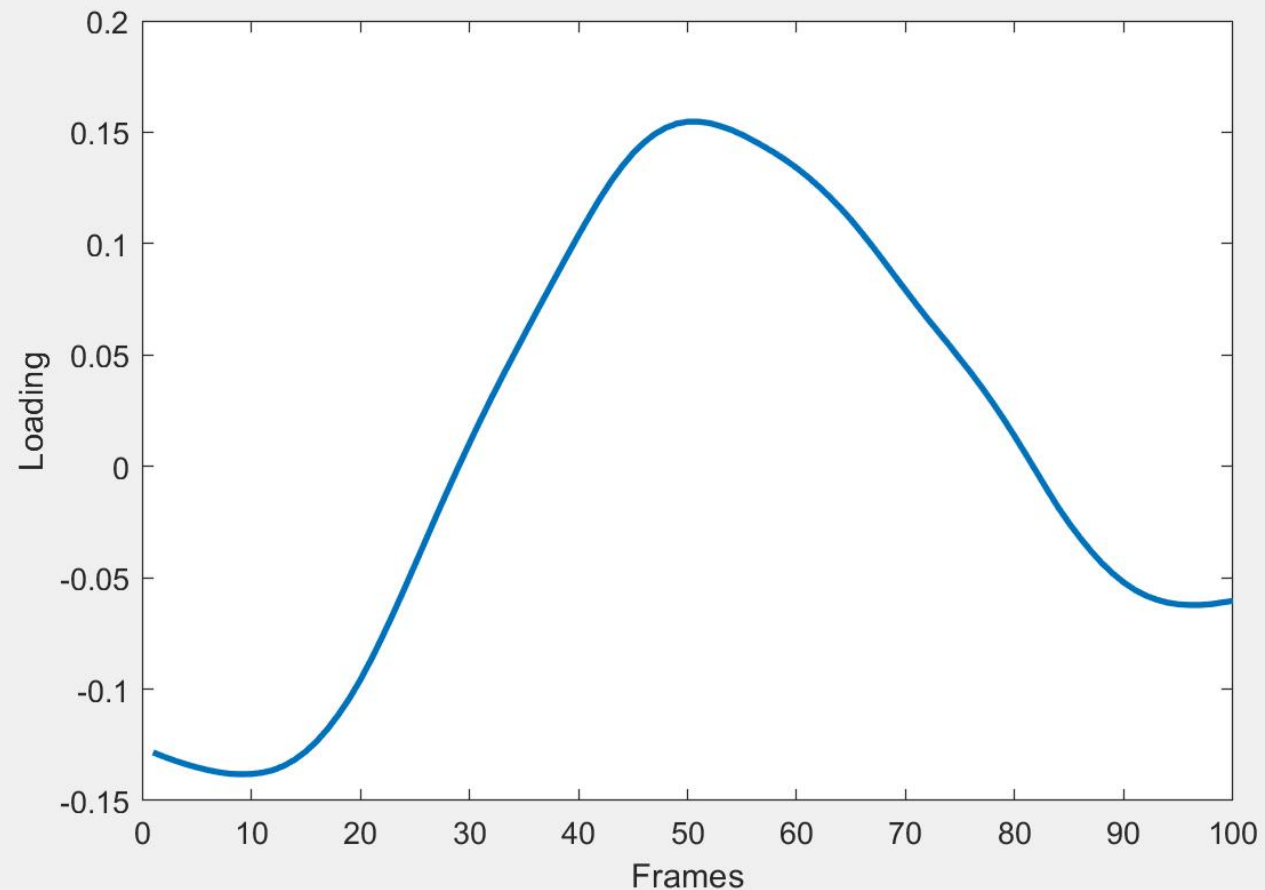
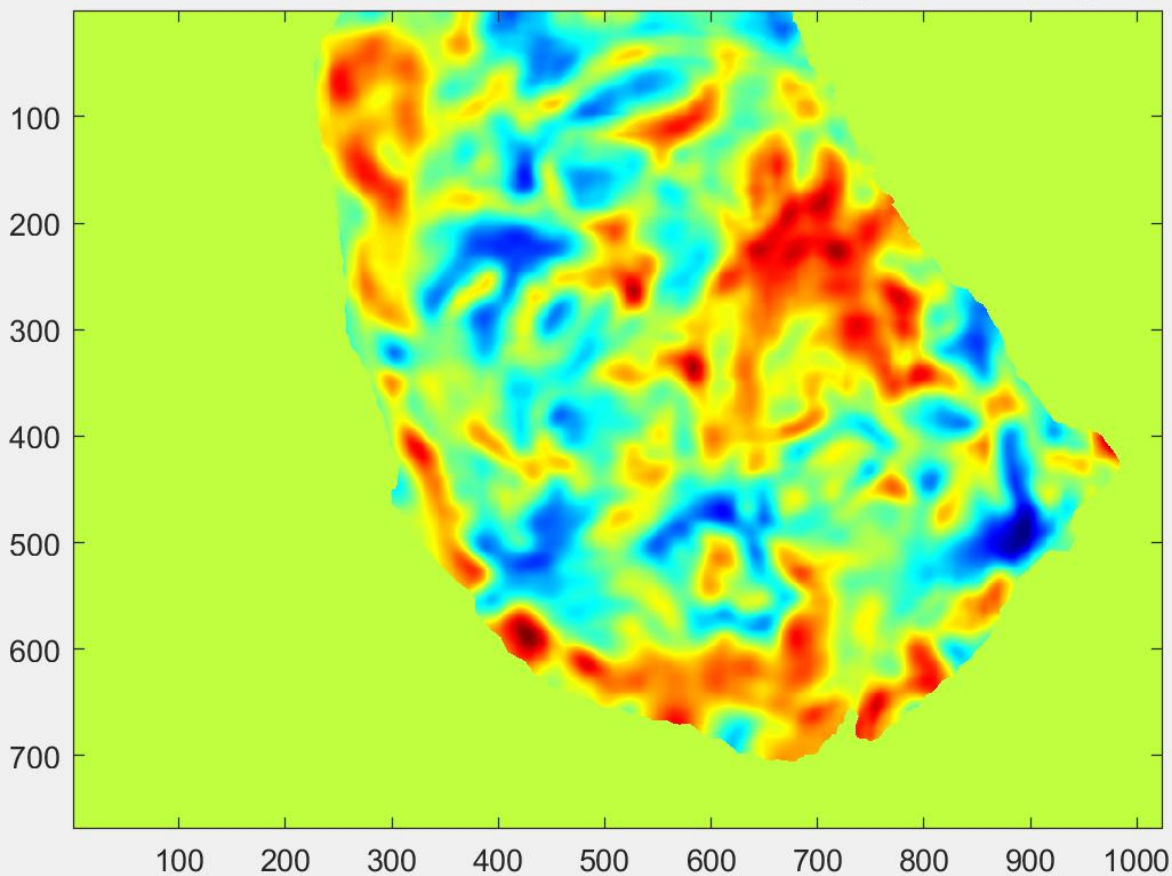
P3 (Hand Motor) Group Component 1

Component 1 Map for Patient 3: 34% of variance explained



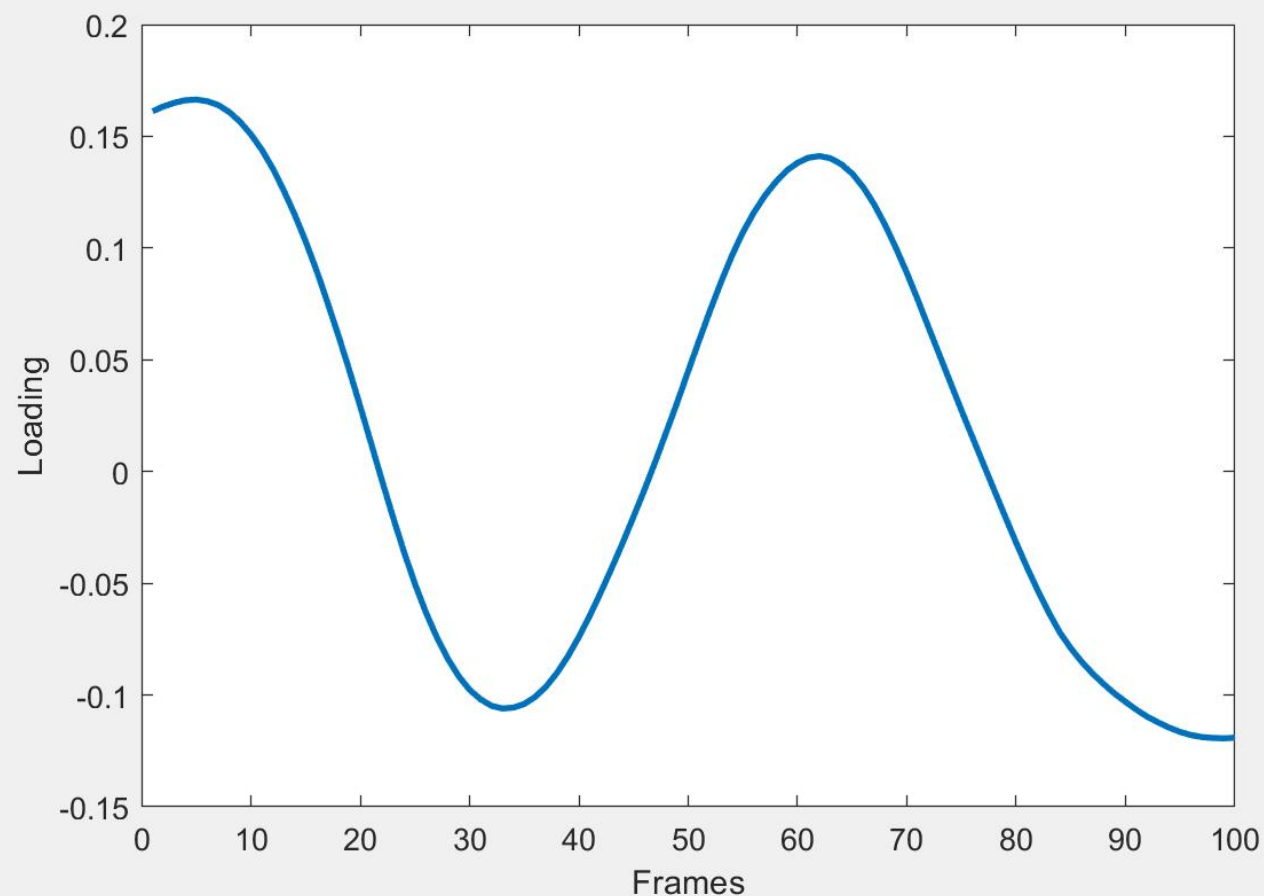
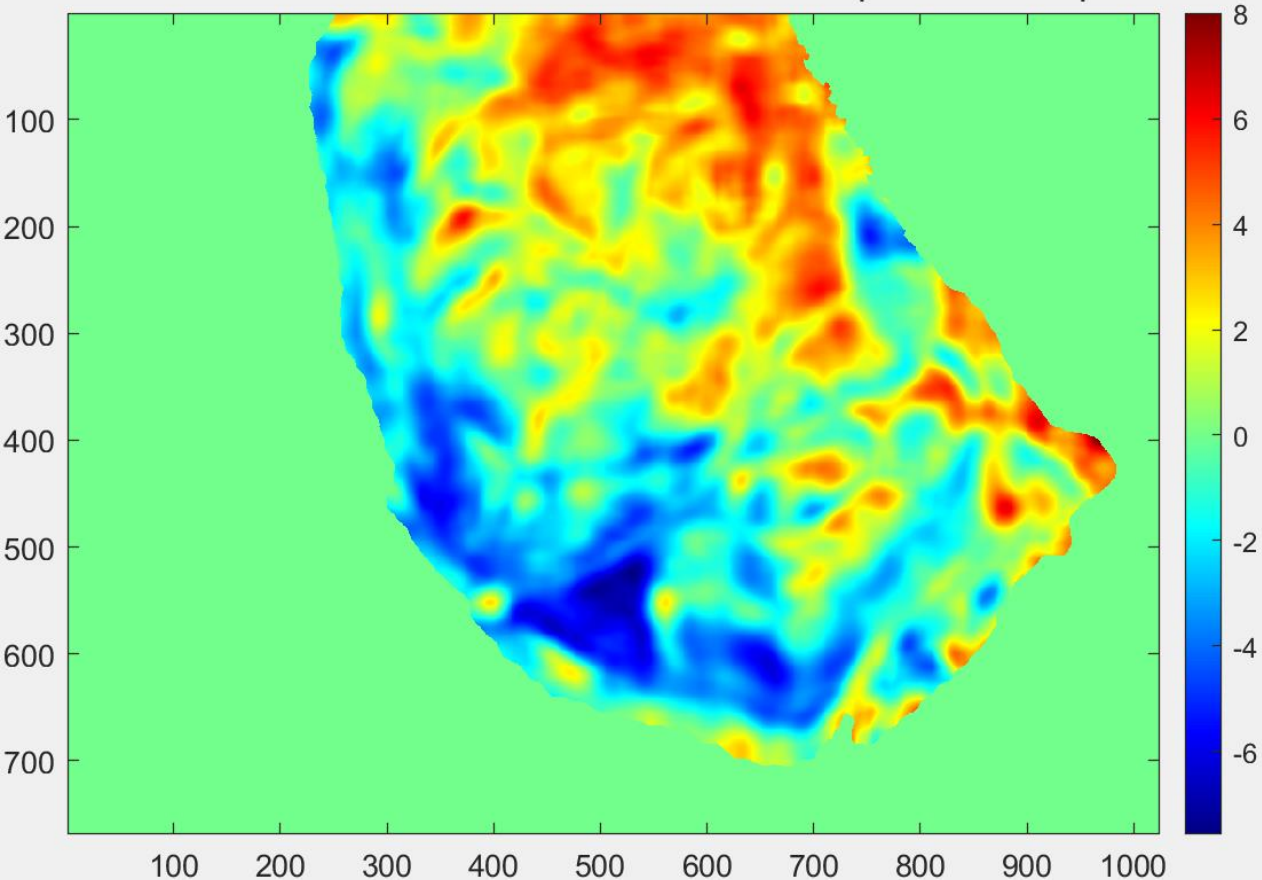
P3 (Hand Motor) Group Component 2

Component 2 Map for Patient 3: 19% of variance explained

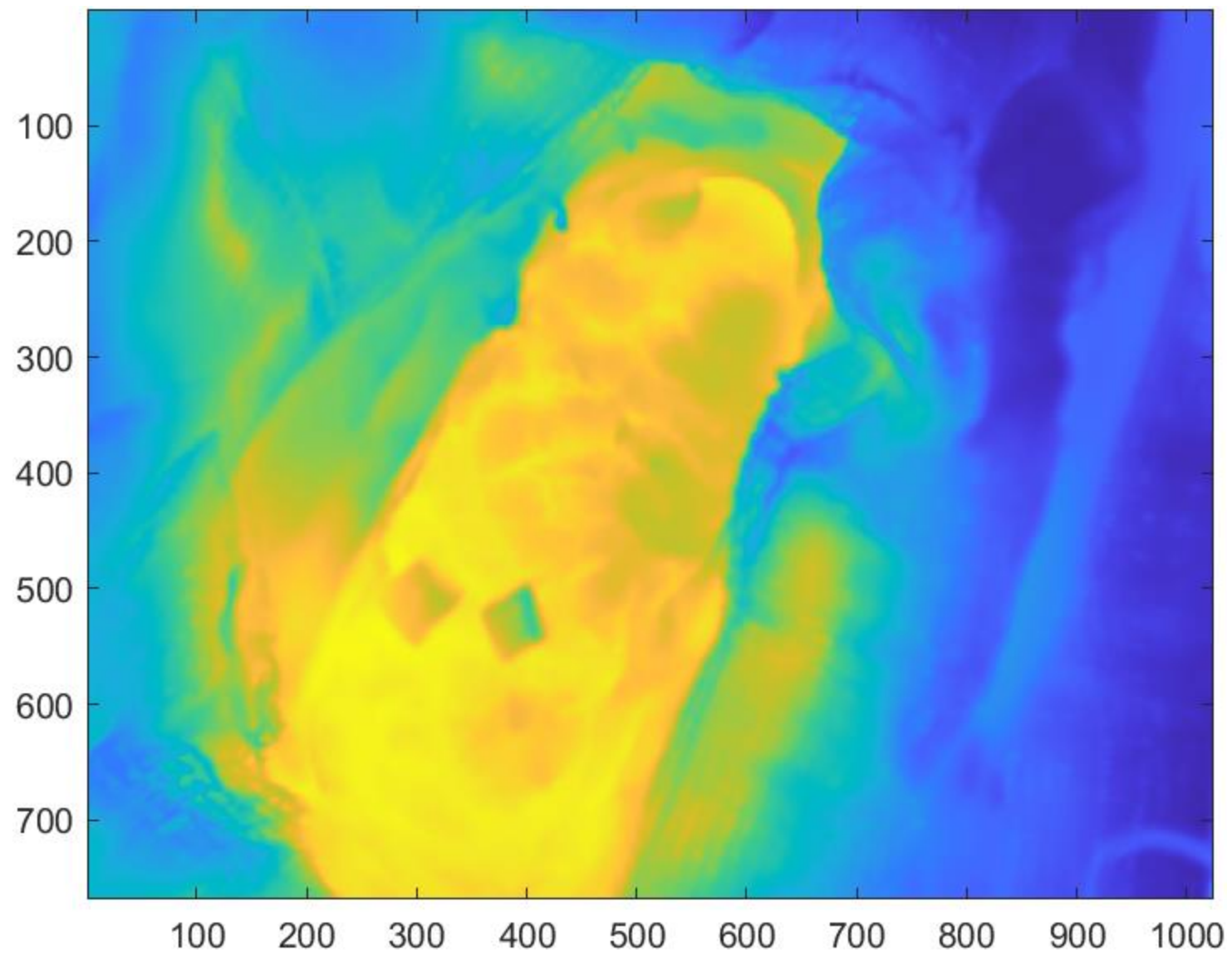


P3 (Hand Motor) Group Component 3

Component 3 Map for Patient 3: 13% of variance explained

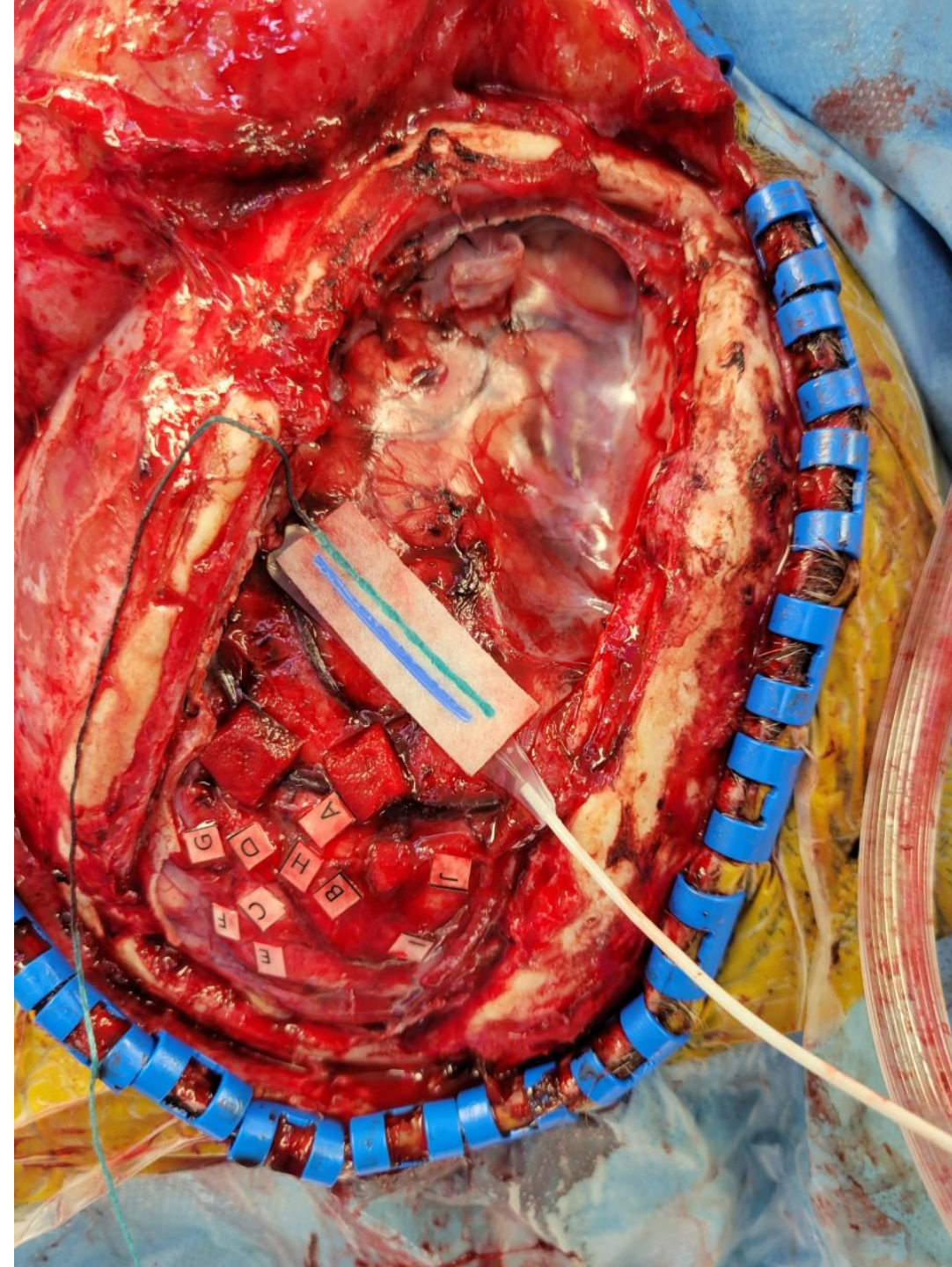


Patient 4: Hand Motor



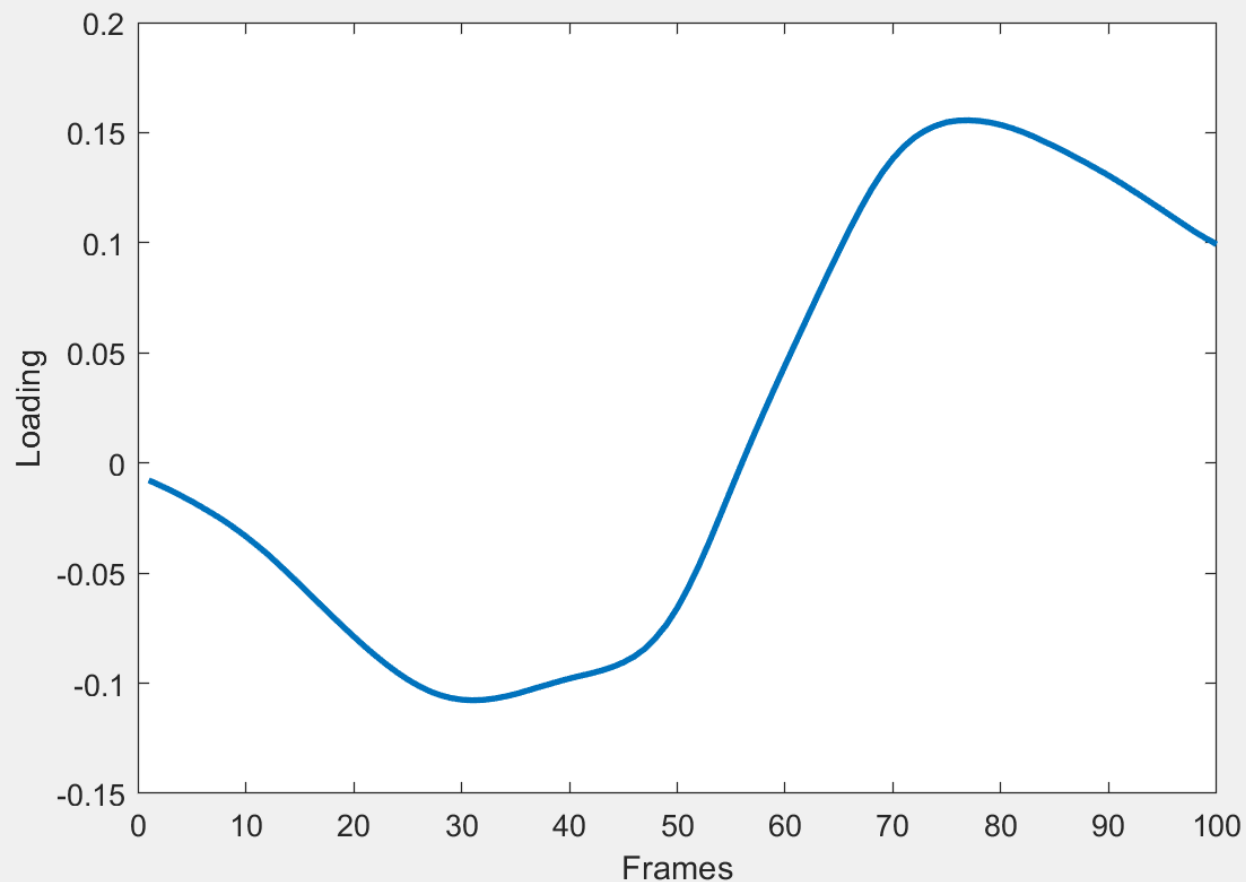
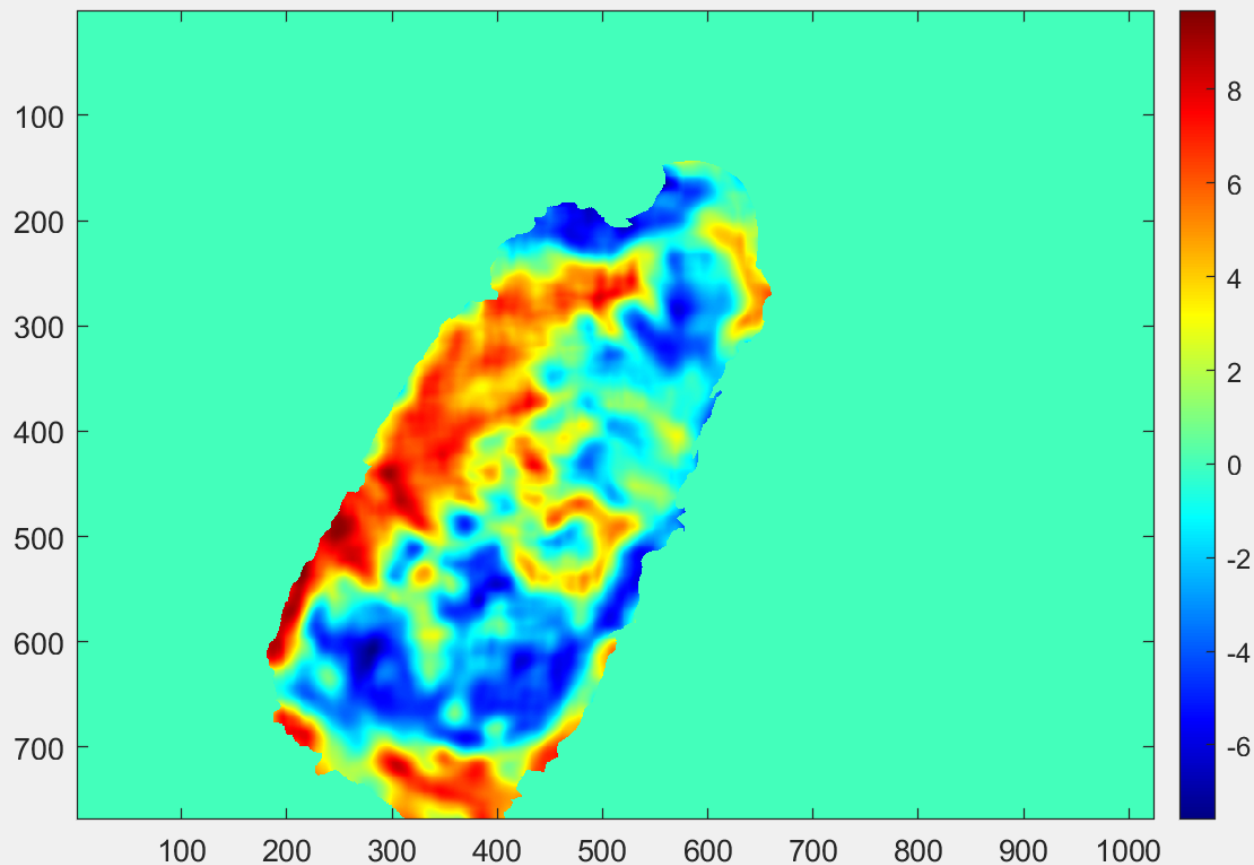
P4 (Hand Motor) DES Key

- A – Finger Adduction
- B – Finger Extension
- C – Finger Sensory
- D – Finger Sensory
- E – Finger Sensory
- G – Thumb Sensory
- H – Wrist Motor
- I – Forearm Motor
- J – Hand Motor



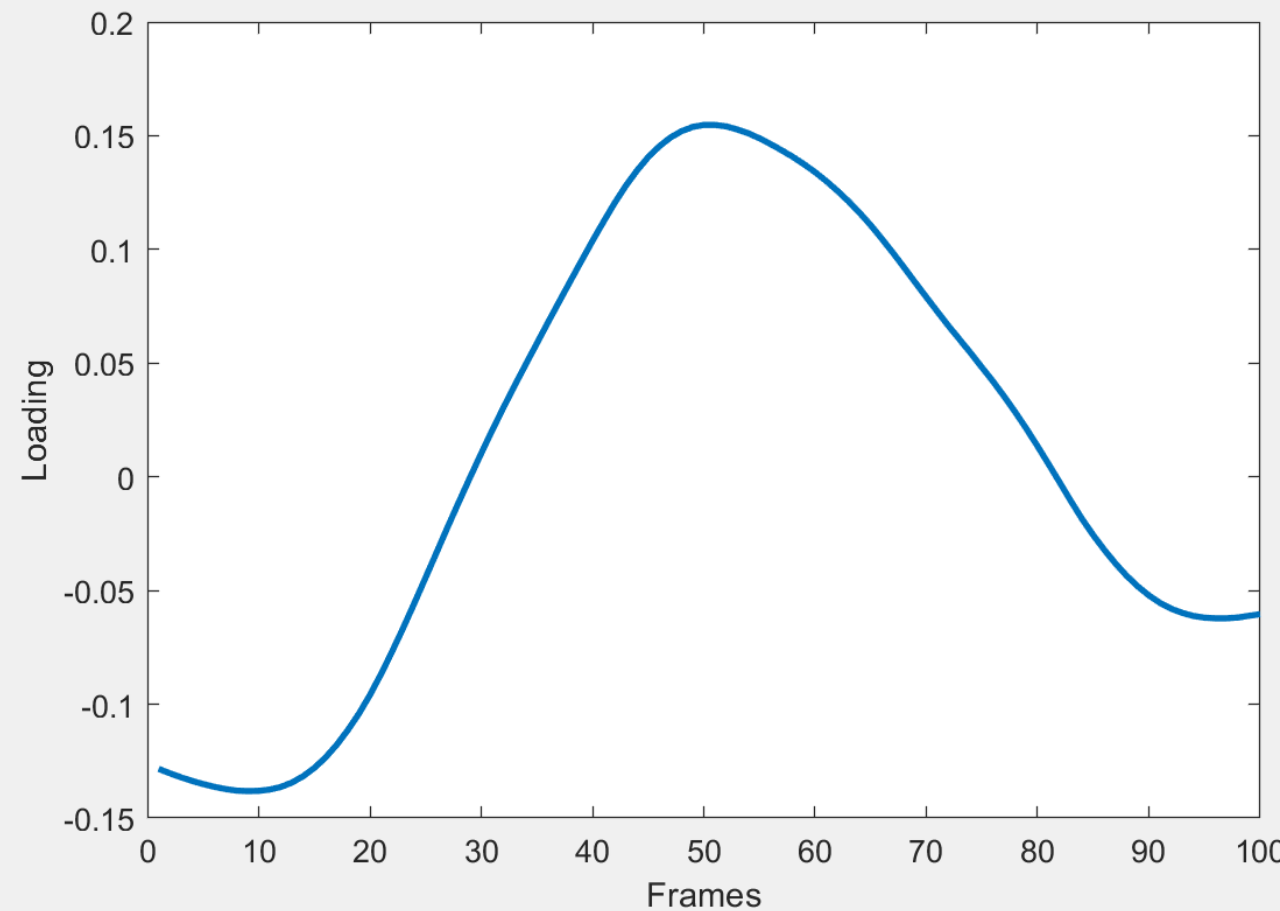
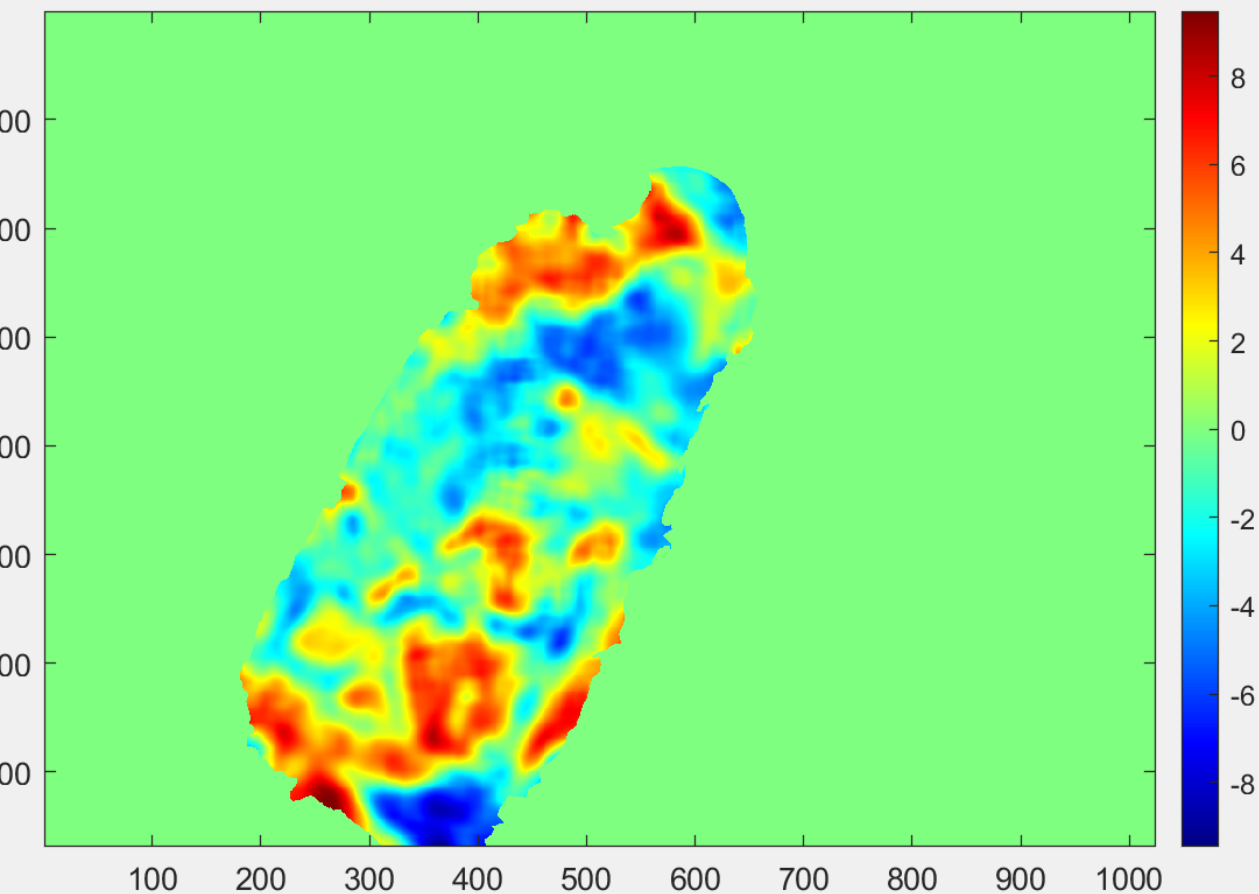
P4 (Hand Motor) Group Component 1

Component 1 Map for Patient 4: 34% of variance explained



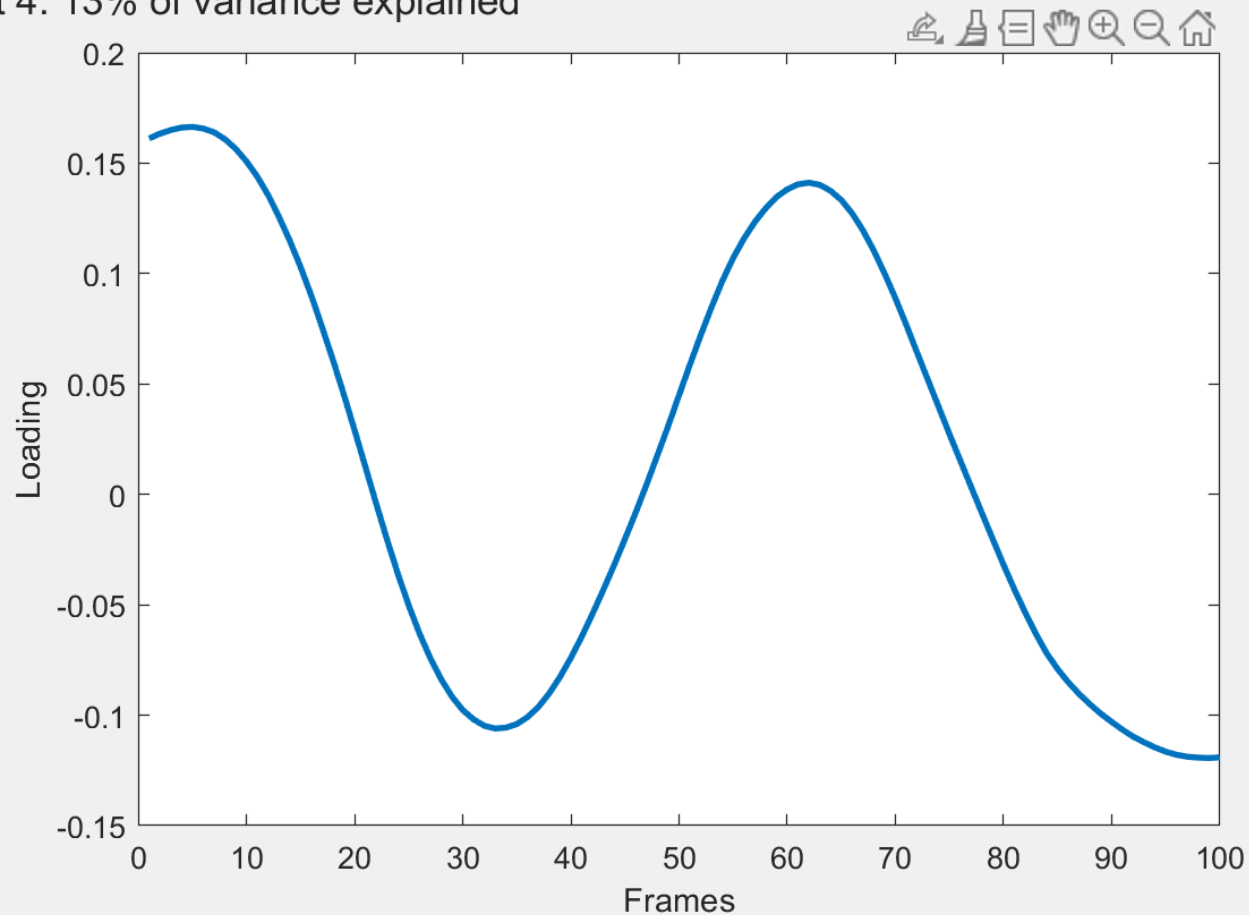
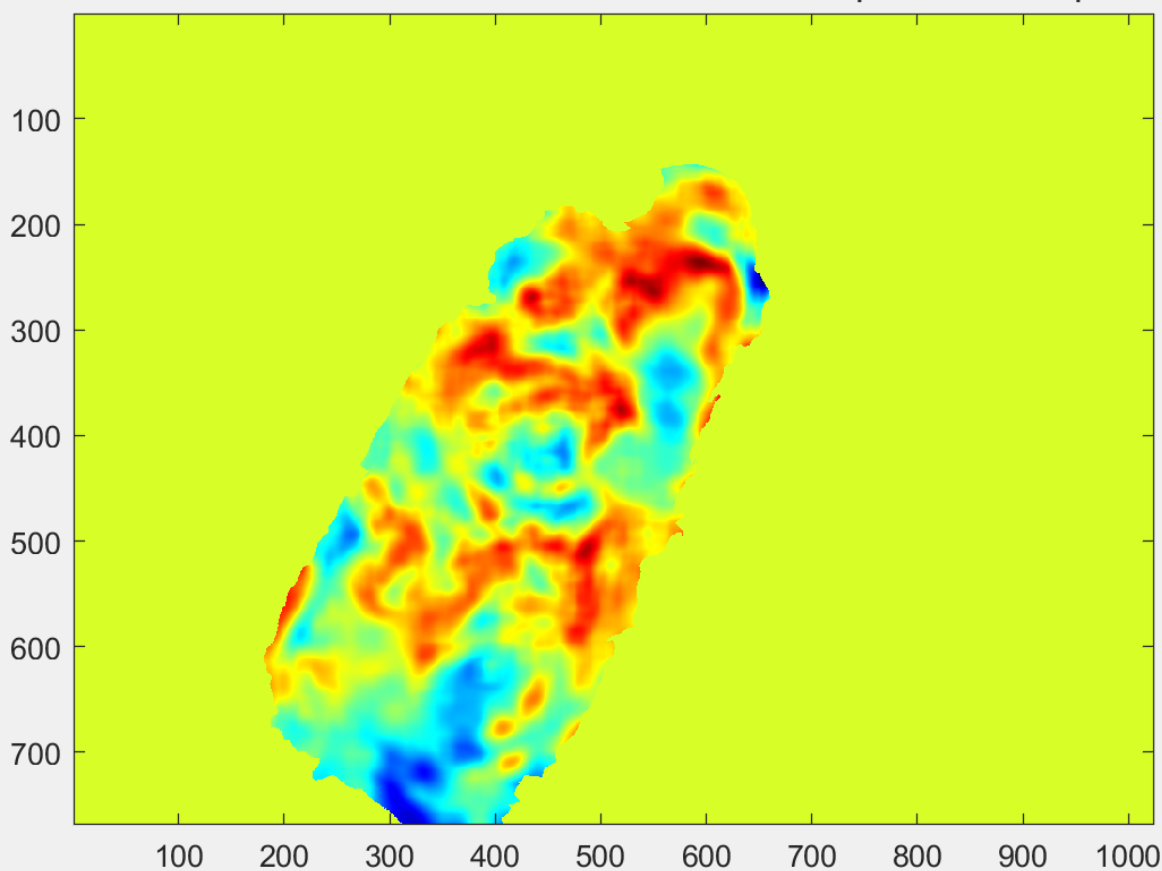
P4 (Hand Motor) Group Component 2

Component 2 Map for Patient 4: 19% of variance explained

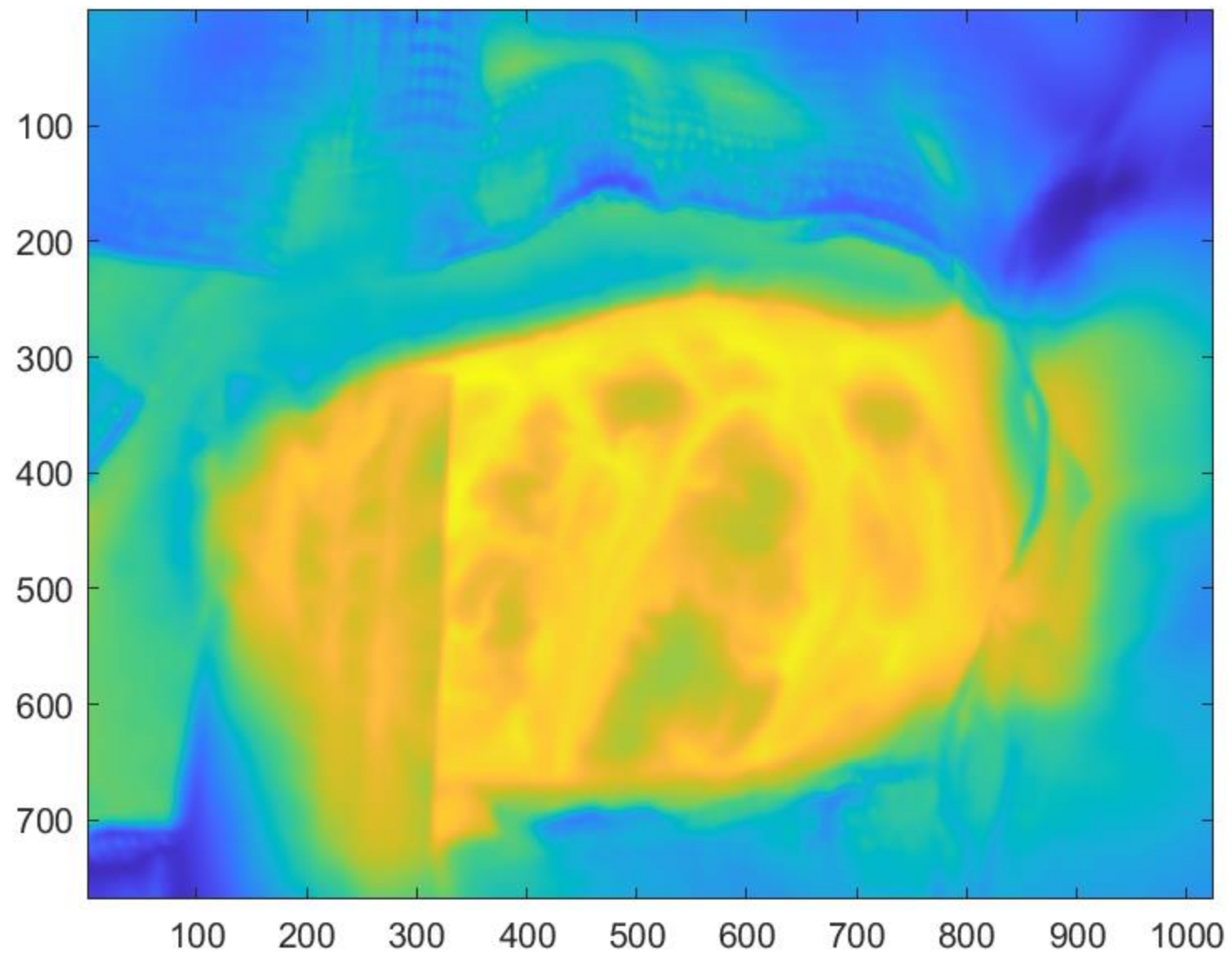


P4 (Hand Motor) Group Component 3

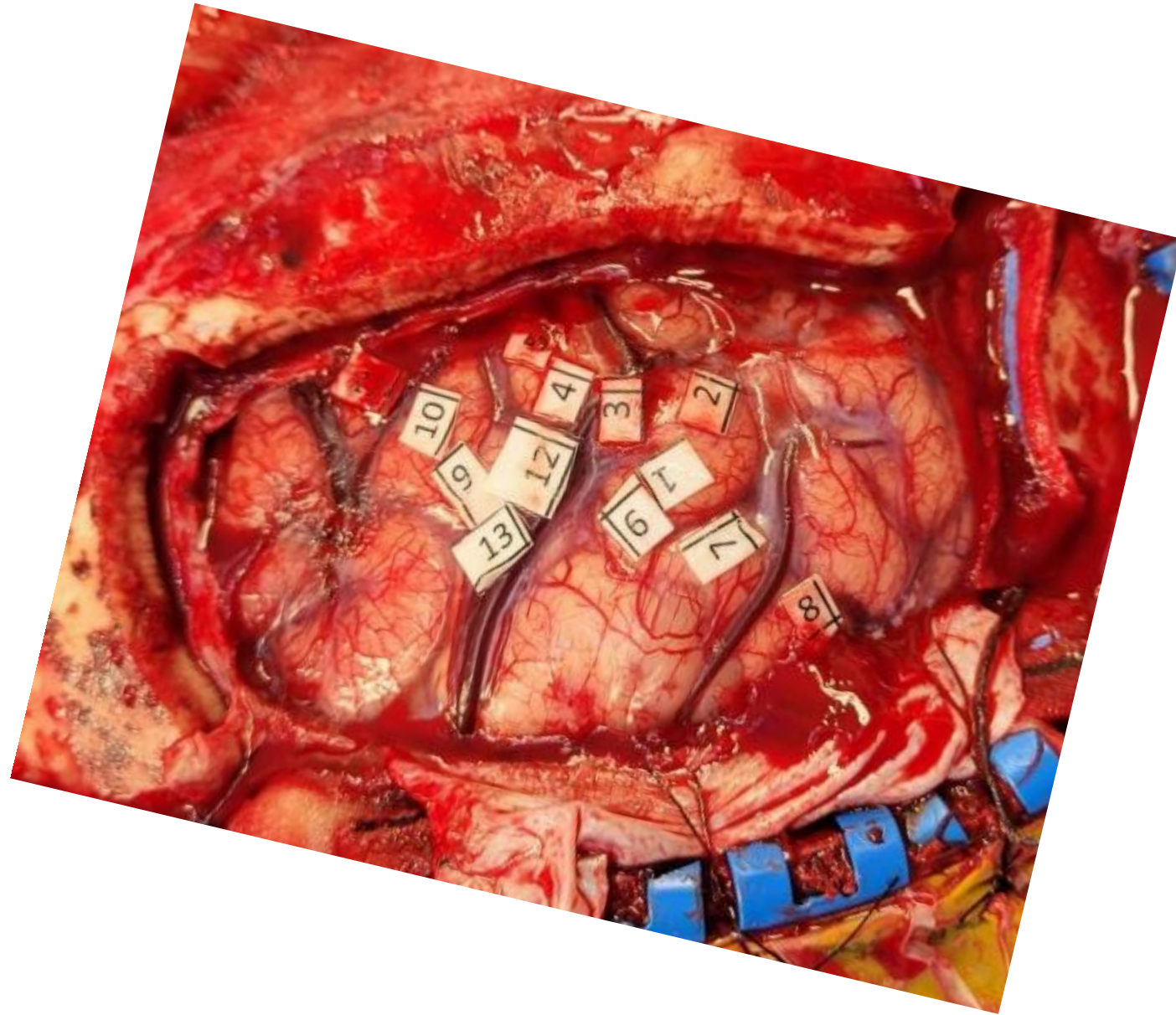
Component 3 Map for Patient 4: 13% of variance explained



Patient 5: Hand Sensory

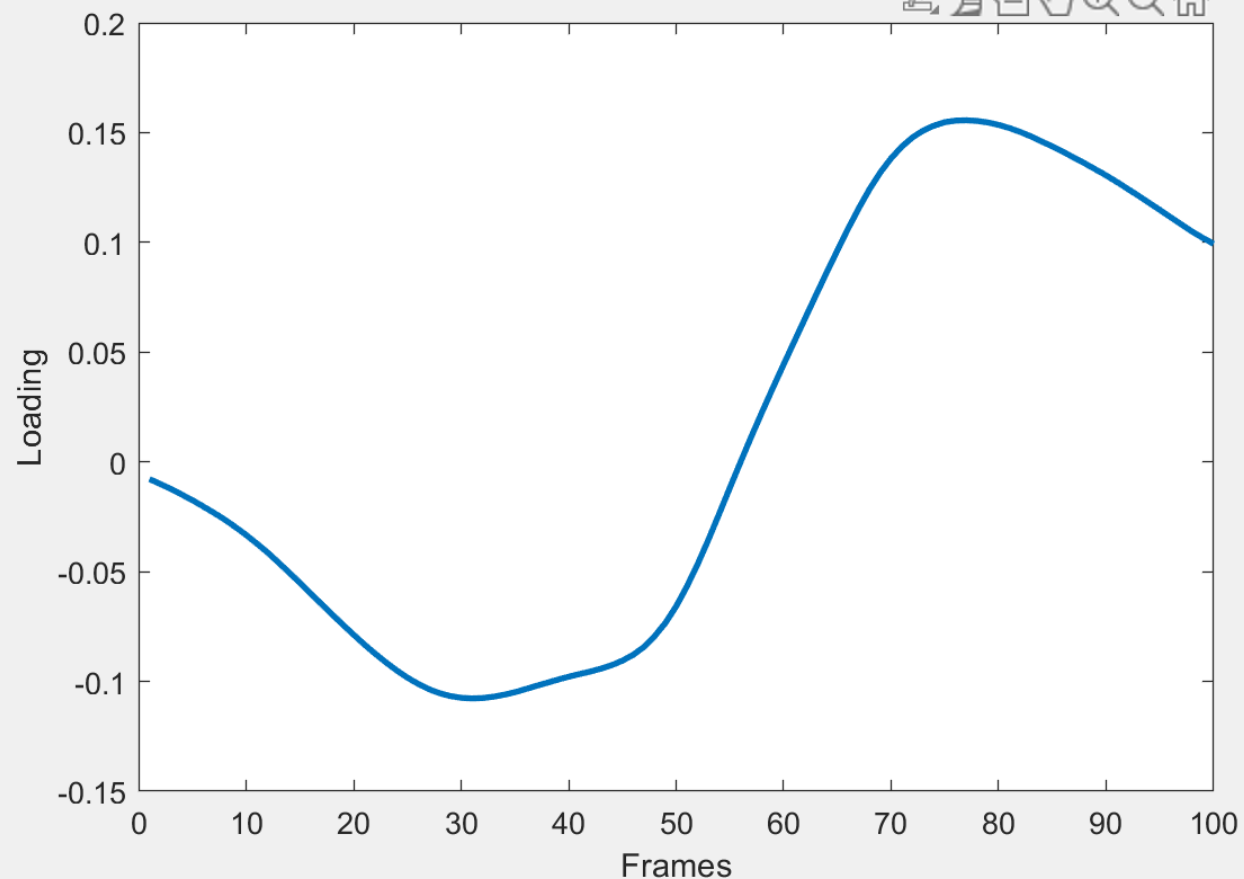
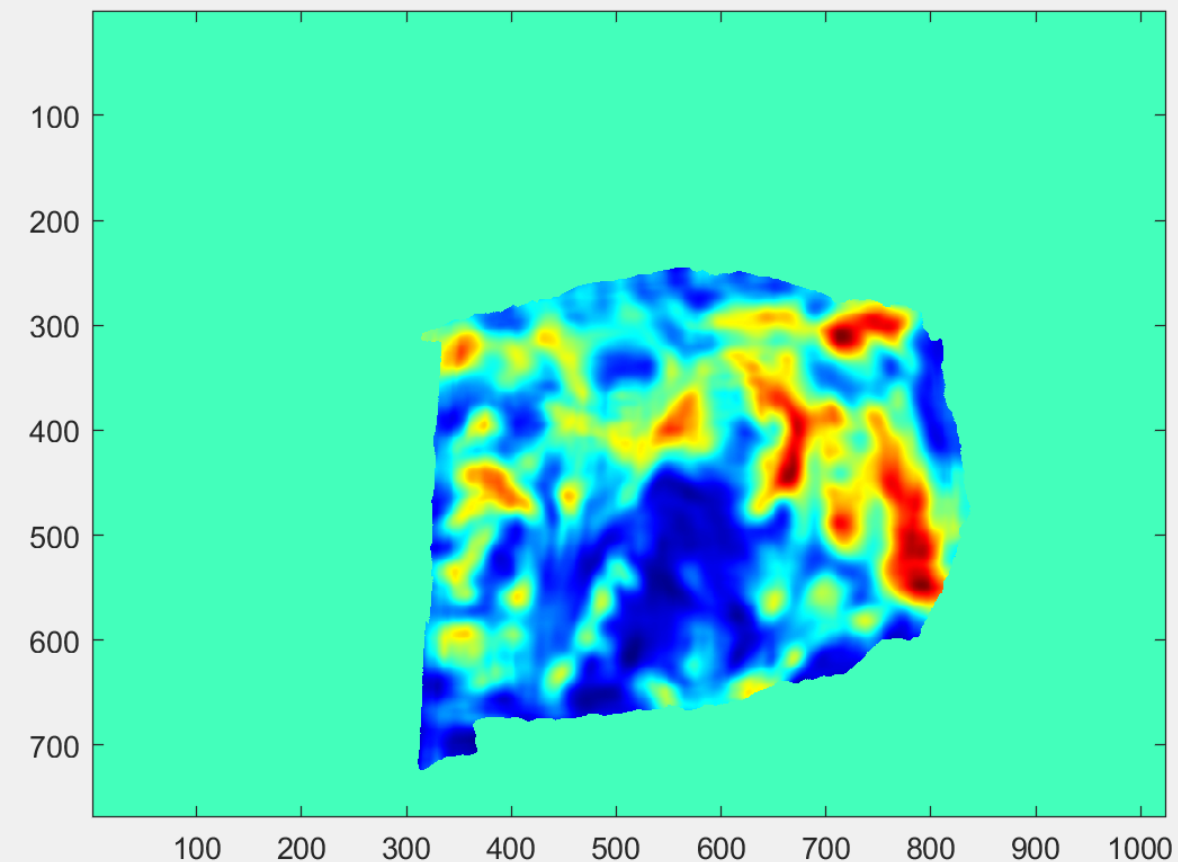


1. Forearm Sensory
2. Forearm Tingling
3. Left Palm Tingling
4. 3,4,5 Finger Flexion
5. **Finger Tingling**
6. Left Upper Arm Tingling
7. Torso Tingling (left)
8. Left Upper Side Tingling
9. Left Wrist / Arm Movement
10. Left Wrist Flexion
11. Face Tingling
12. Elbow Flexion
13. Left Shoulder Movement



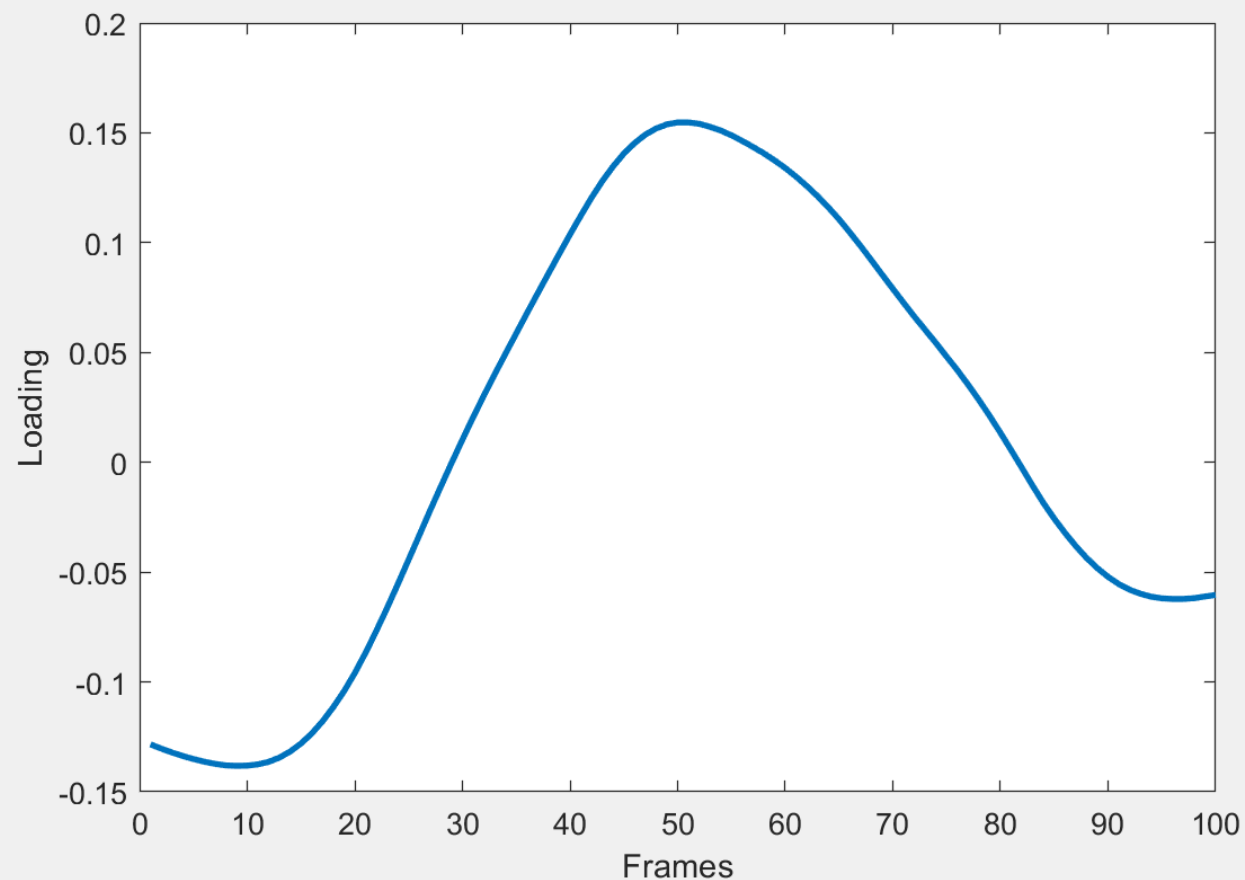
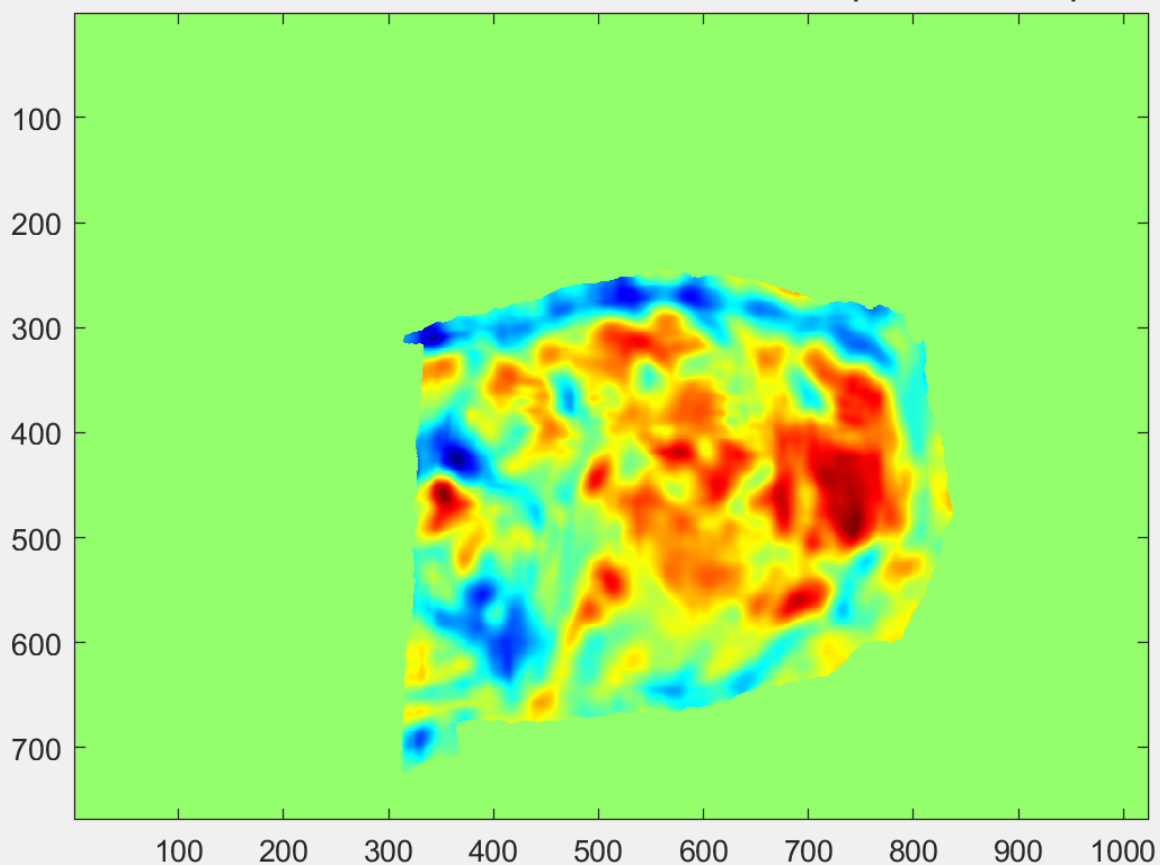
P5 (Hand Sensory) Group Component 1

Component 1 Map for Patient 5: 34% of variance explained



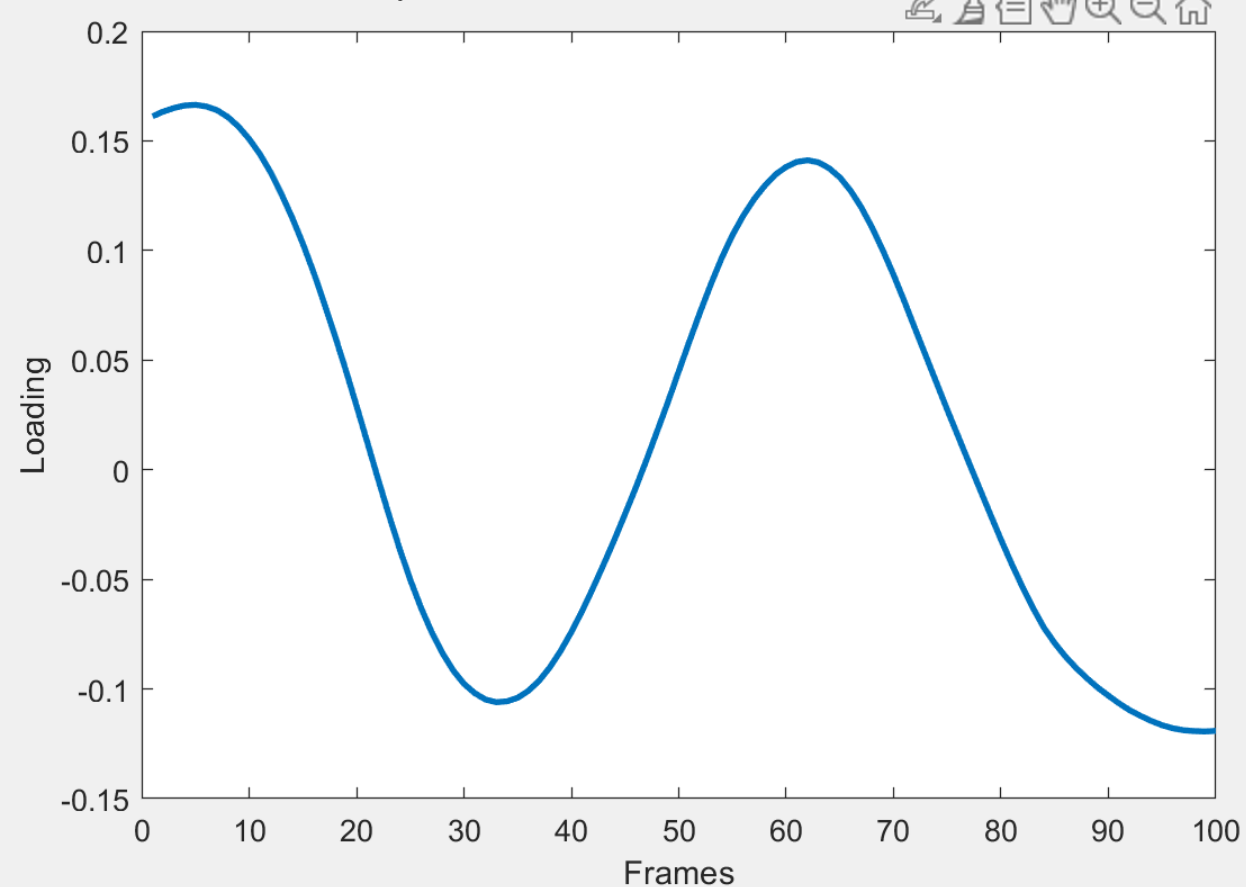
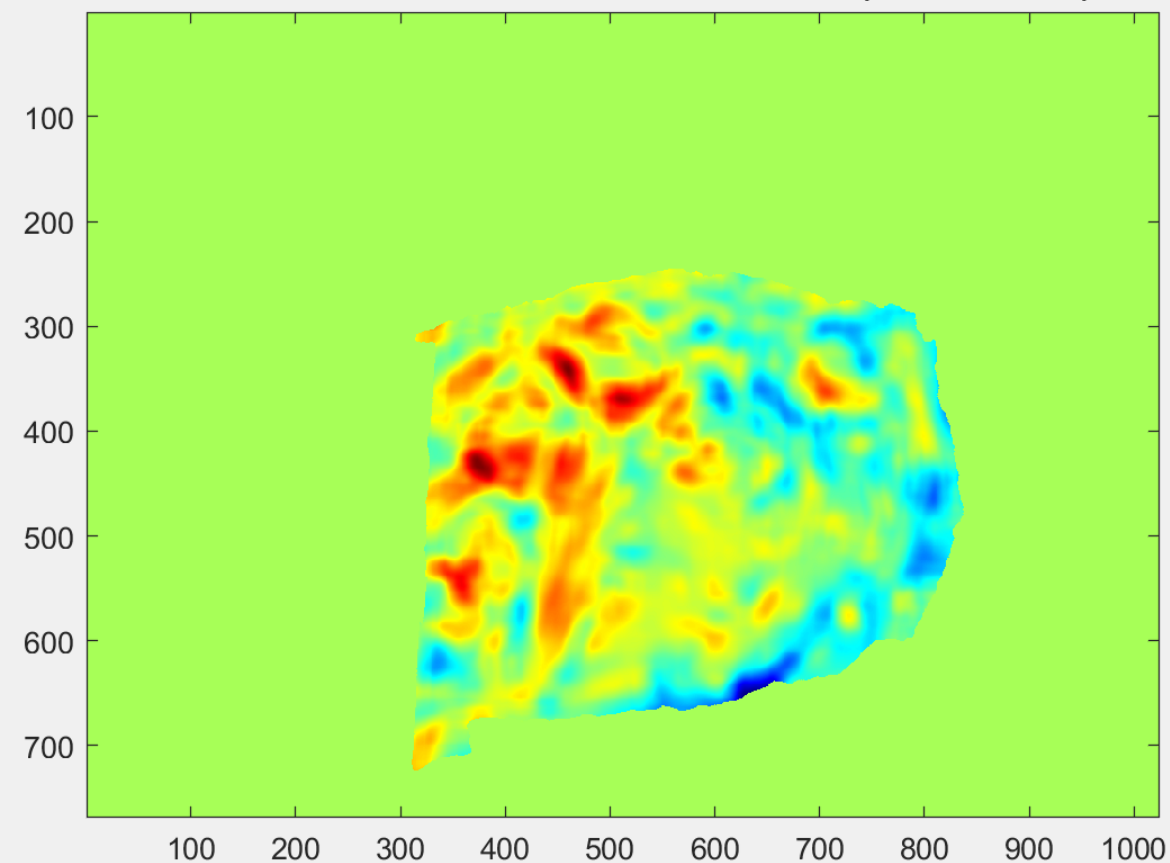
P5 (Hand Sensory) Group Component 2

Component 2 Map for Patient 5: 19% of variance explained

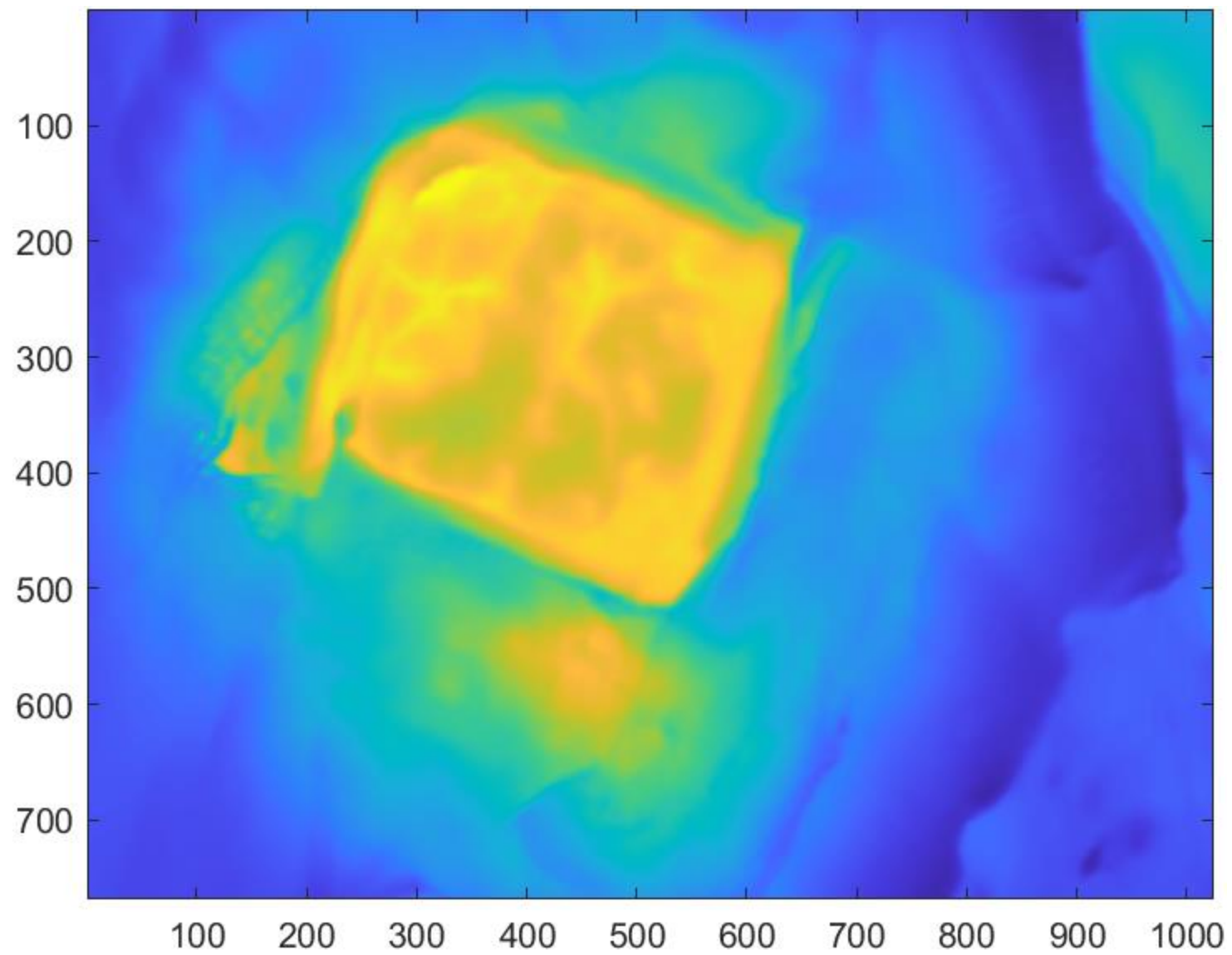


P5 (Hand Sensory) Group Component 3

Component 3 Map for Patient 5: 13% of variance explained

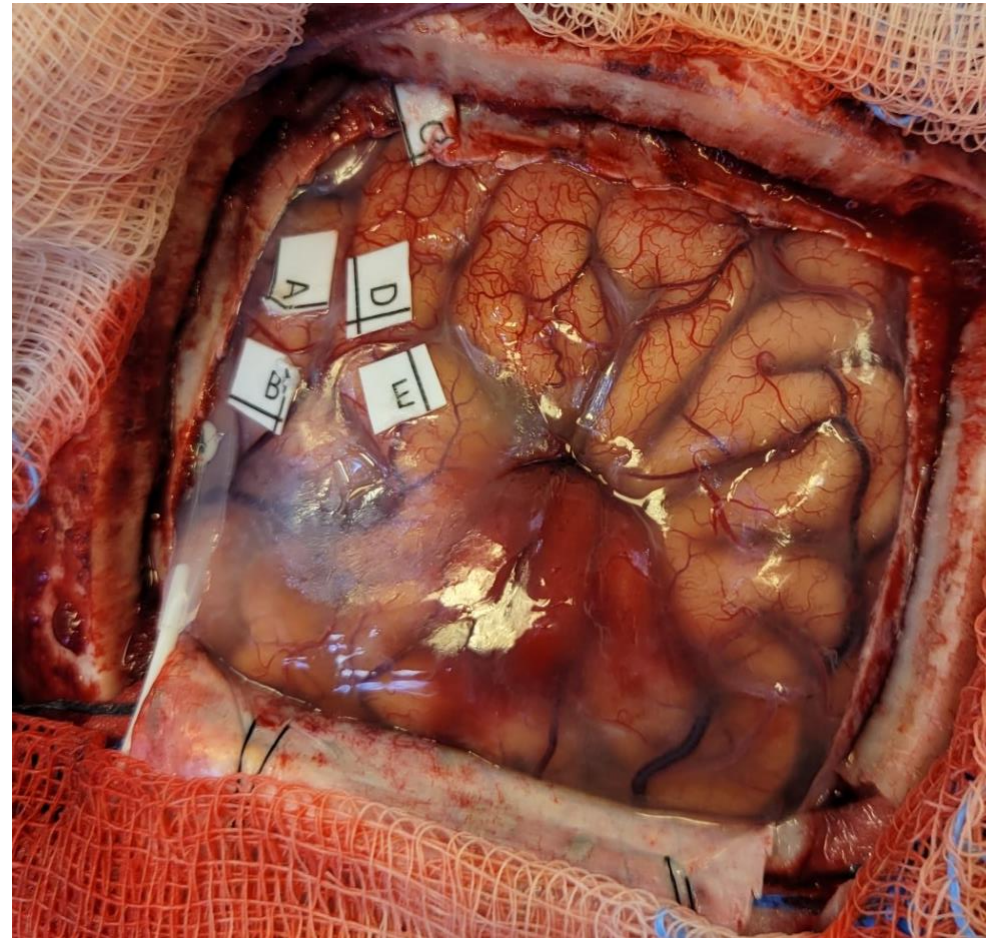


Patient 6: Hand Sensory



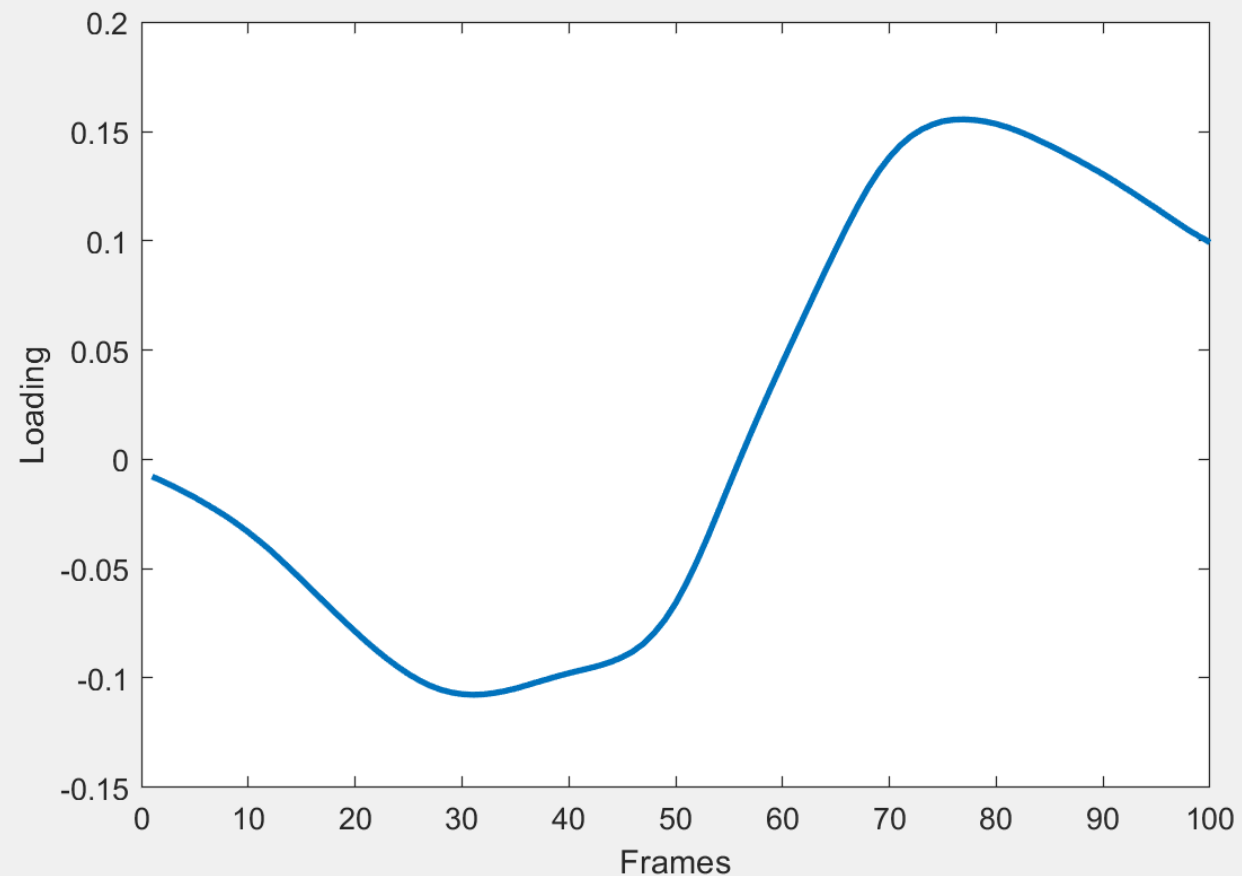
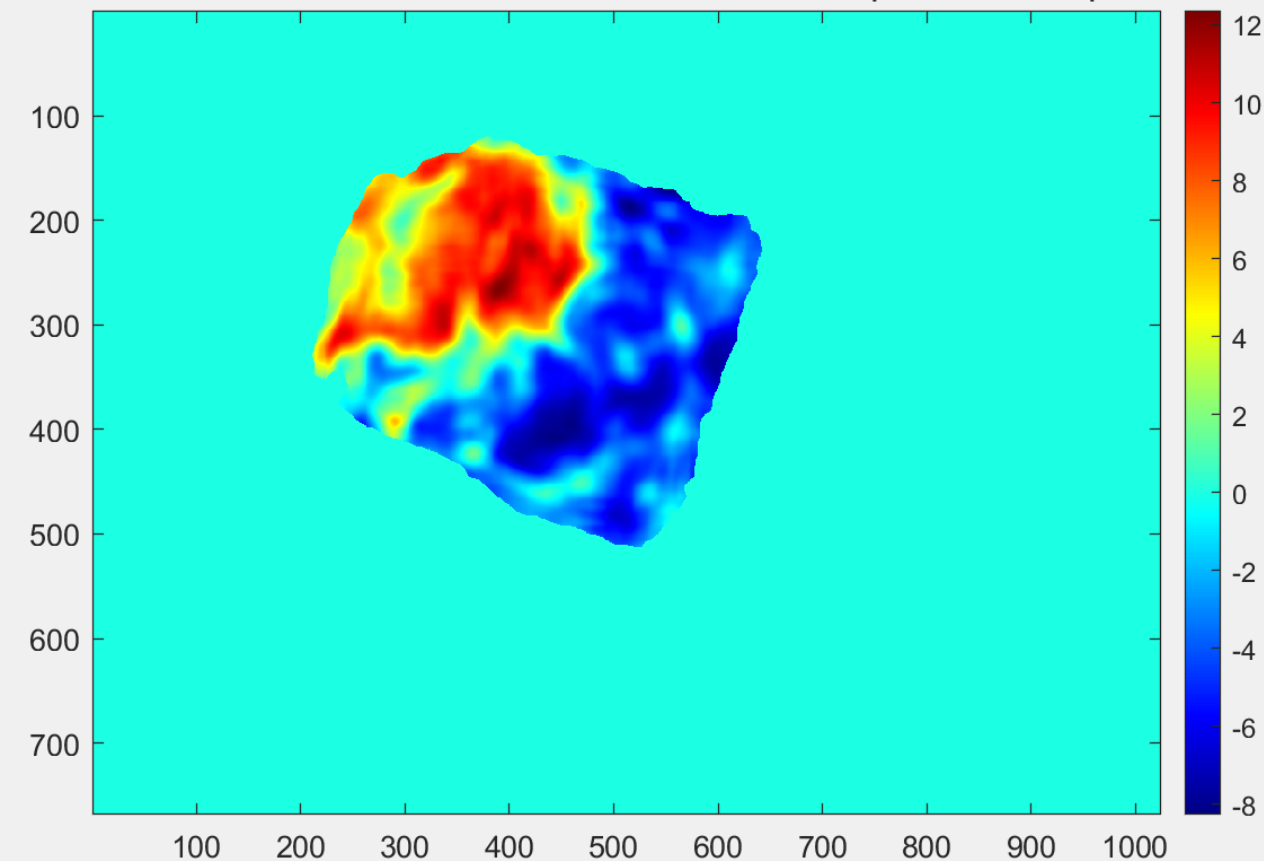
P6 (Hand Sensory) DES Key

- A – Left finger extension
- B – Left hand extension
- C – Cheek tingling
- D – Thumb numbness
- E – Pinky Numbness



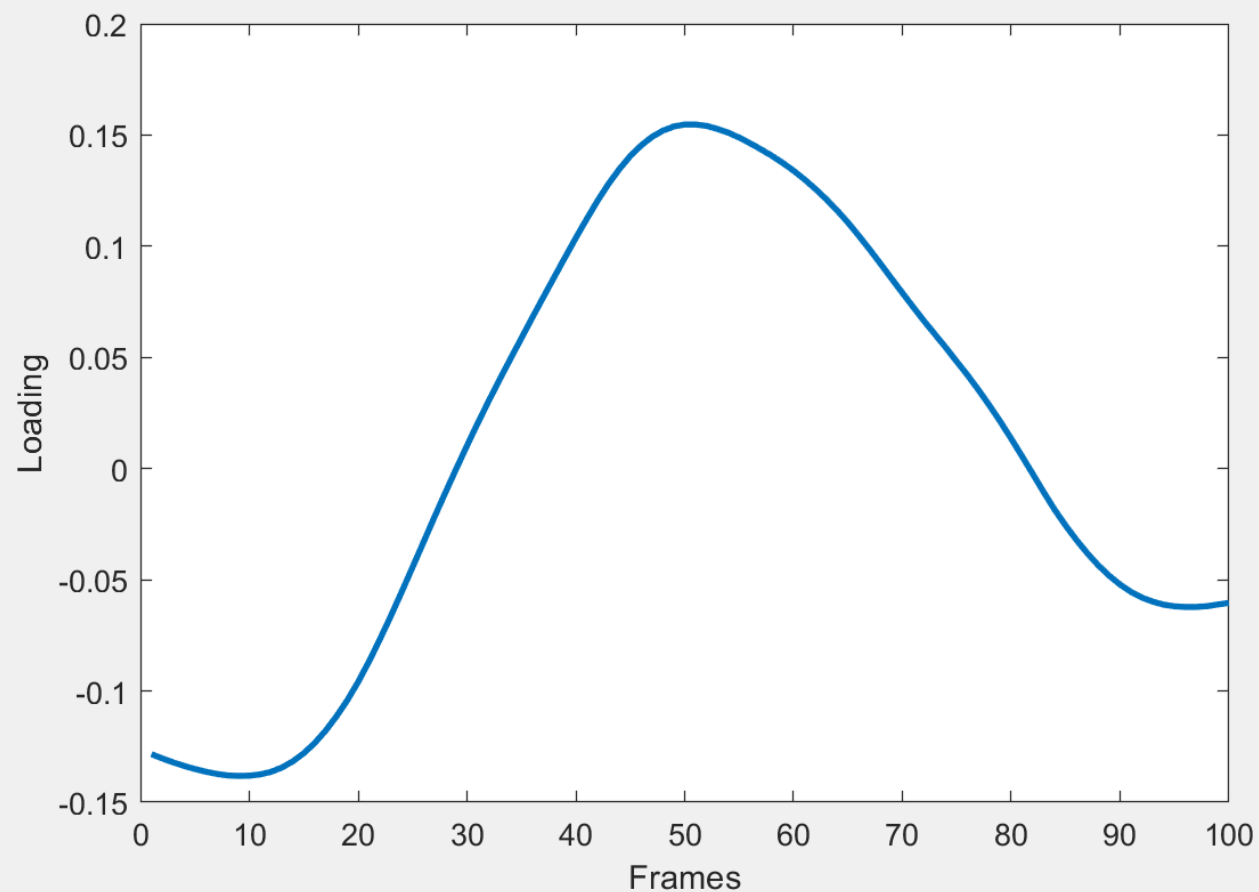
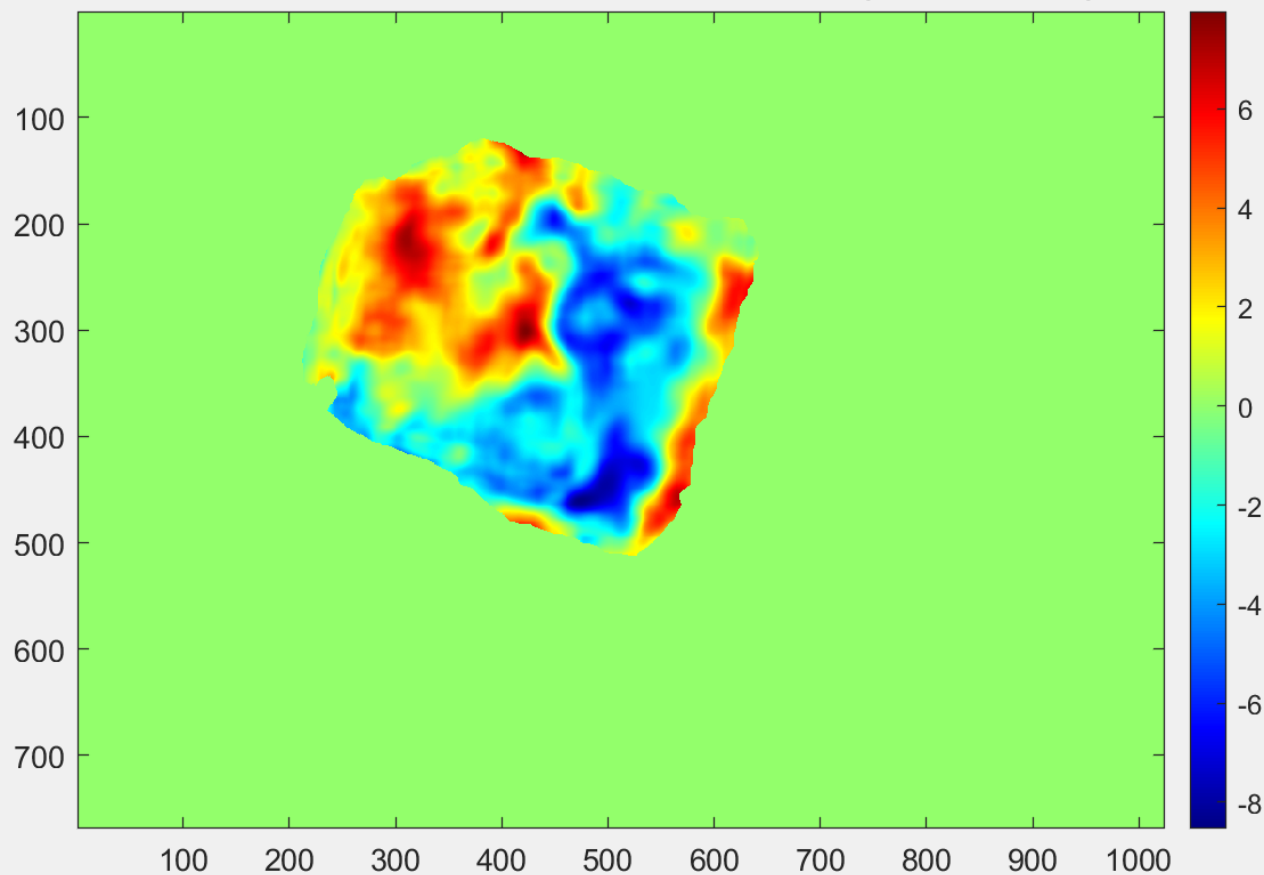
P6 (Hand Sensory) Group Component 1

Component 1 Map for Patient 6: 34% of variance explained



P6 (Hand Sensory) Group Component 2

Component 2 Map for Patient 6: 19% of variance explained



P6 (Hand Sensory) Group Component 3

Component 3 Map for Patient 6: 13% of variance explained

