

Experimental Results

Synthetic data (MRF Inpainting)

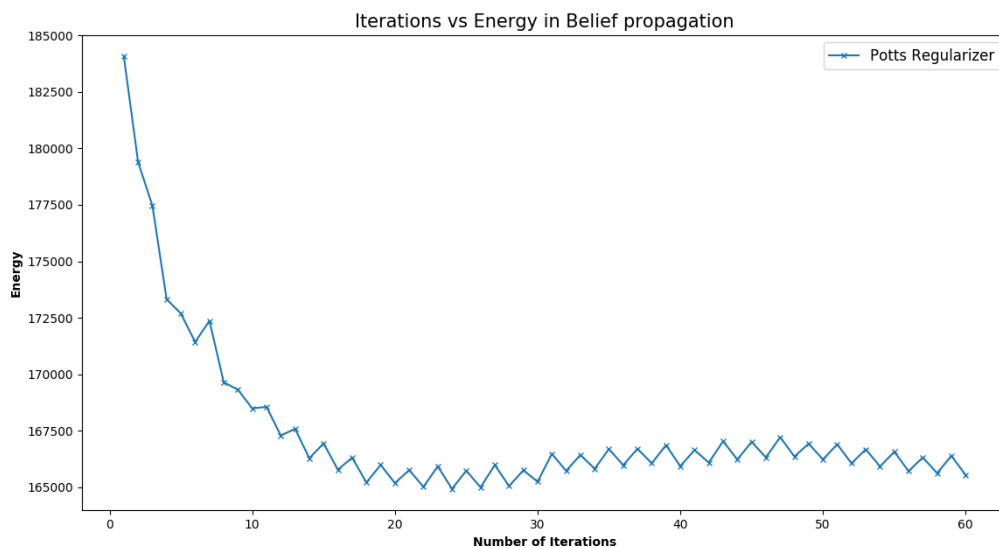
- **Number of labels** = 50
- **Unary potential** = Squared distance between label and observed quantity
- **Spatial Regularizers** =
 - (i) Potts
 - (ii) Squared difference
 - (iii) Truncated Square difference
- **Threshold for Truncated Squared distance** = 40 , **Penalty strength (beta)** = 0.1
- **Inference:** TRWS & Belief Propagation
- **Iterations:** 60
- **Runtime and Min energy**

Regularizer		TRWS	BP
Potts	Total Time (s)	114.9	291.48
	Time/iter (s)	1.92	4.858
	Energy value	146225	165537

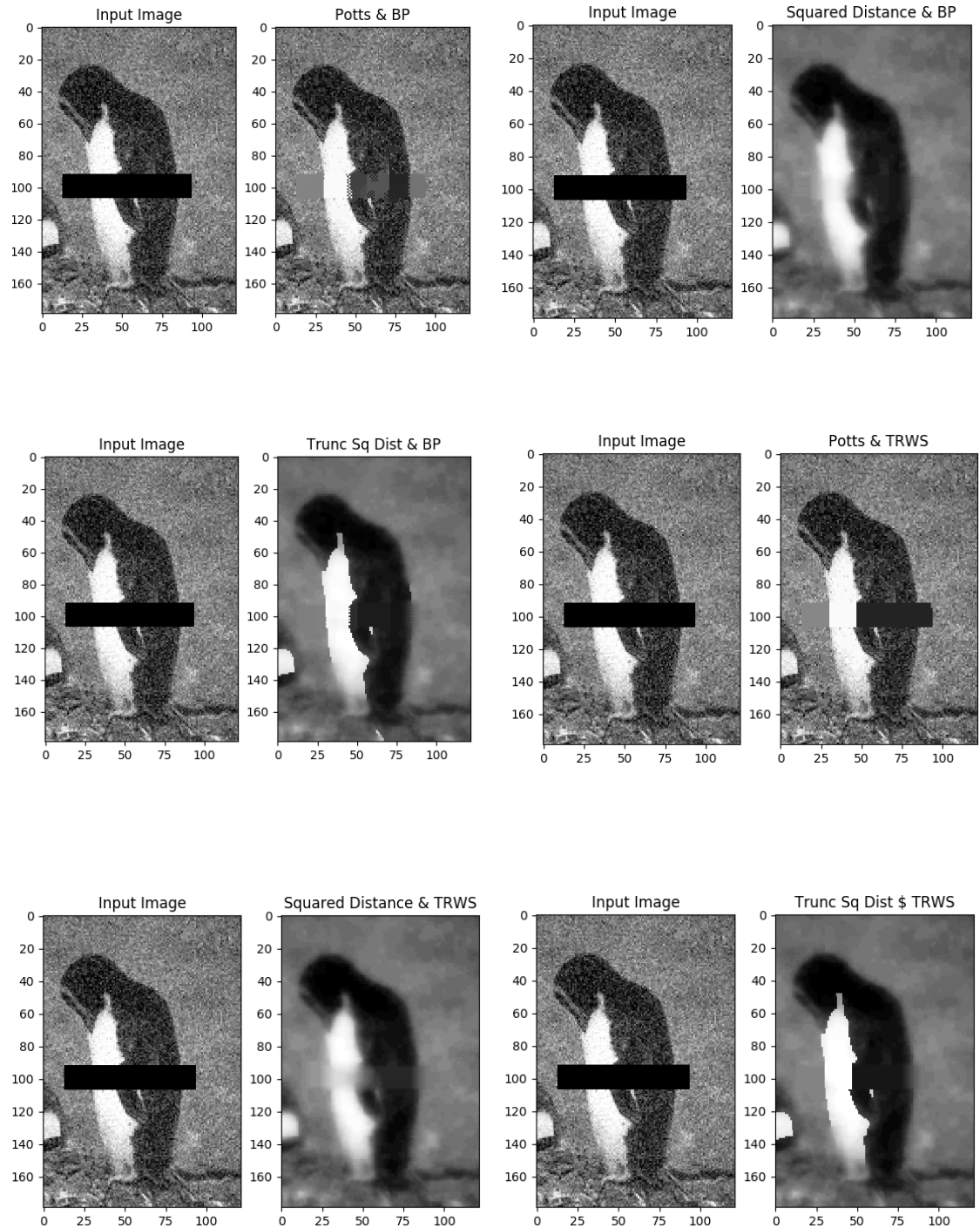
Squared Dist	Total Time (s)	153.335	296.36
	Time/iter (s)	2.56	4.94
	Energy value	570854	593028

Trunc Squared Dist	Total Time (s)	155.4	308.7
	Time/iter (s)	2.59	5.145
	Energy value	509032	539099

Iterations vs Energy graph



- **Input Inpainting image vs output restored images**



Intraoperative data (Brain Tumor segmentation)

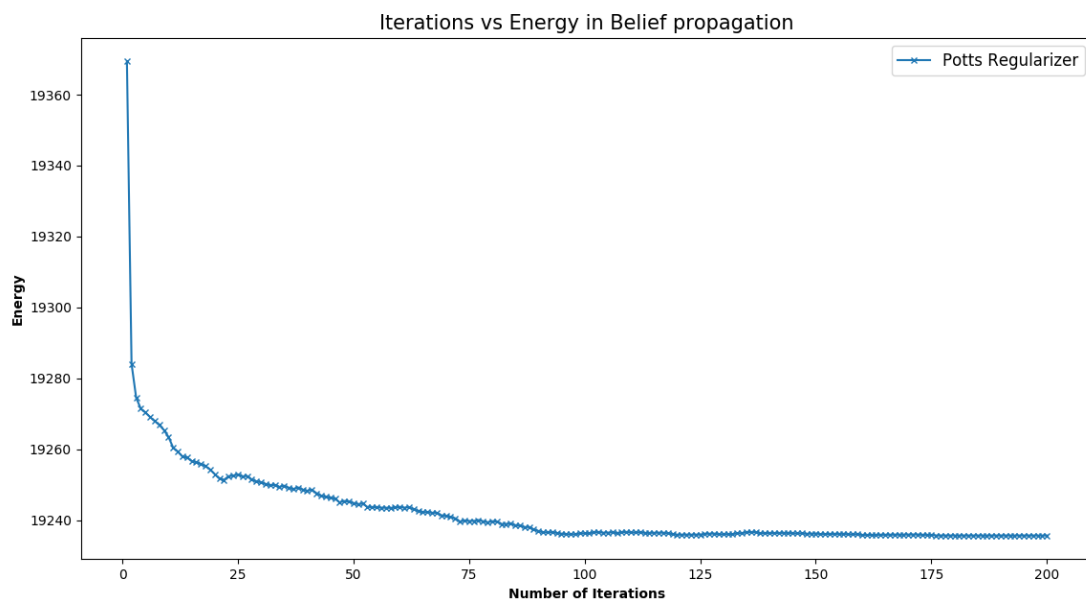
- **Number of labels = 5**
 - 0 - Necrotic core
 - 1 - Enhancing core
 - 2 - Non-enhancing core
 - 3 - Edema
 - 4 - Healthy tissue
- **Unary potential** = Absolute Linear distance between observed intensity and label
- **Spatial Regularizers =**
 - (iv) Potts
 - (v) Squared difference
 - (vi) Truncated Square difference
- **Threshold for Truncated Squared distance = 10 , Penalty strength (beta) = 0.1**
- **Inference:** TRWS & Belief Propagation
- **Iterations:** 200
- **Runtime and Min energy**

Regularizer		TRWS	BP
Potts	Total Time (s)	66.27	761.65
	Energy value	19235.4	19235.7

Squared Dist	Total Time (s)	86.45	752.5
	Energy value	19235.4	19235.7

Trunc Squared Dist	Total Time (s)	82.53	756.35
	Energy value	19235.4	19235.7

- **Iterations vs Energy graph**



- Input intraoperative image vs output segmented images

