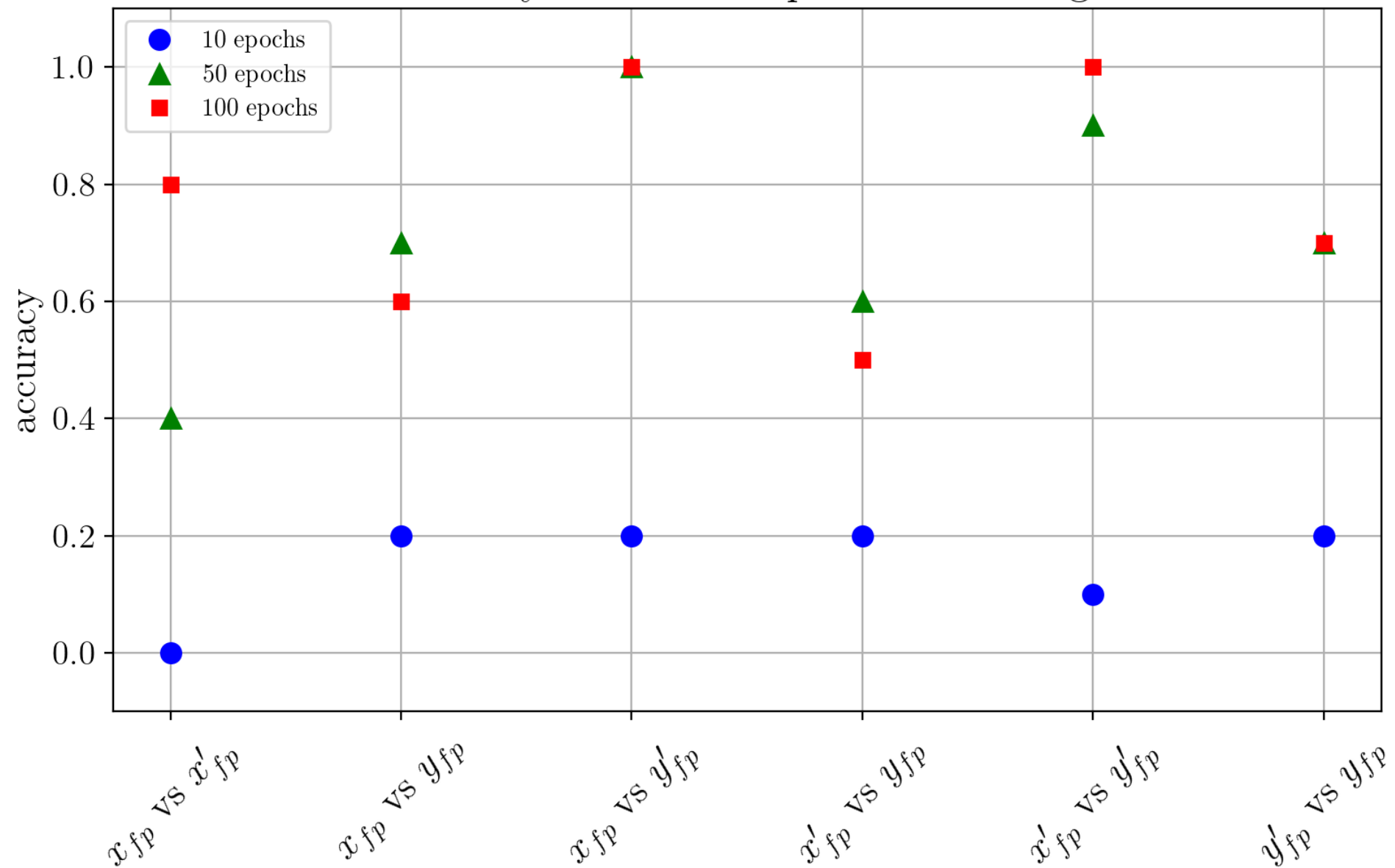


Convolutional Neural Network Model: Accuracy of SHMS Optics Test Images



- Study of the accuracy (predict live power) of the CNN model versus the number of epochs (iterations over the dataset)
- 10 optics patterns per focal plane plot (each 2D focal plane image had 10 distinct [Q1,Q2,Q3] tunes where $Q1 = 1.00$, $Q3 = 1.00$ and $Q2$ varied between 0.955 to 1.055 in steps of 0.01)
- accuracy for each 2D focal plane plot is defined as: # of correct predictions / total images (there were a total of 10 optics patterns per each 2D focal plane plot, and the accuracy was calculated for 10, 50 and 100 epochs)
- This plot is a sanity-check to verify that when NOT enough iterations are done to optimize the model, then the accuracy drastically decreases, but when a significant number of iterations are done, the improvement is noticeable. There does not seem to be much of a difference between 50-100 epochs, as in this region, the accuracy of the training data set plateaus