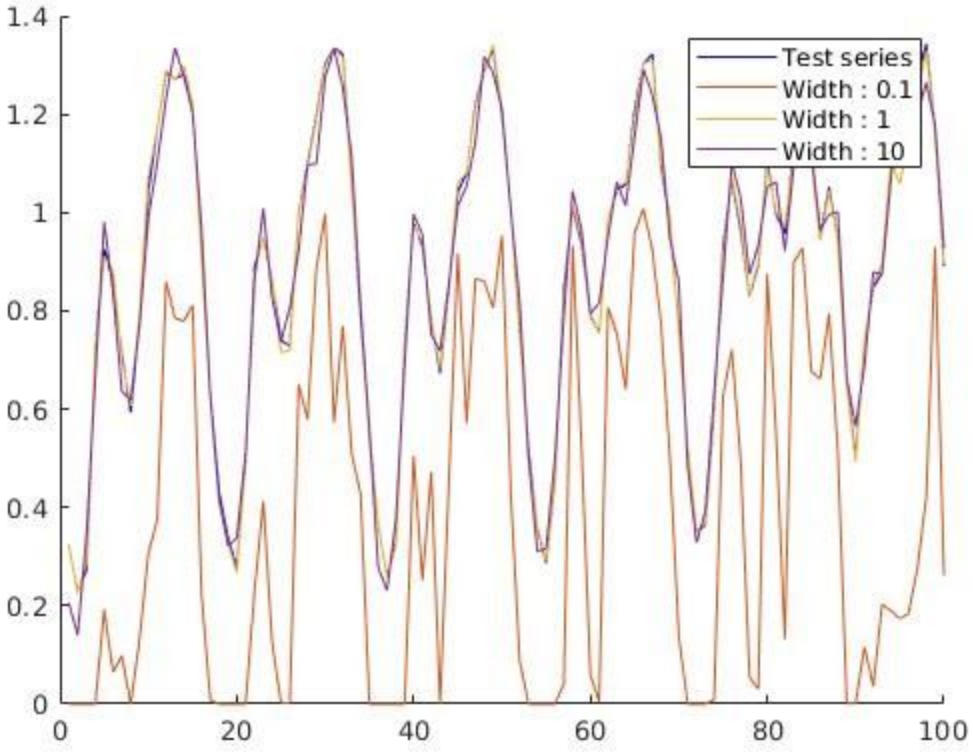
Implementing KRLS in Mackey-Glass dataset : With gaussian kernel

Training iterations: 500

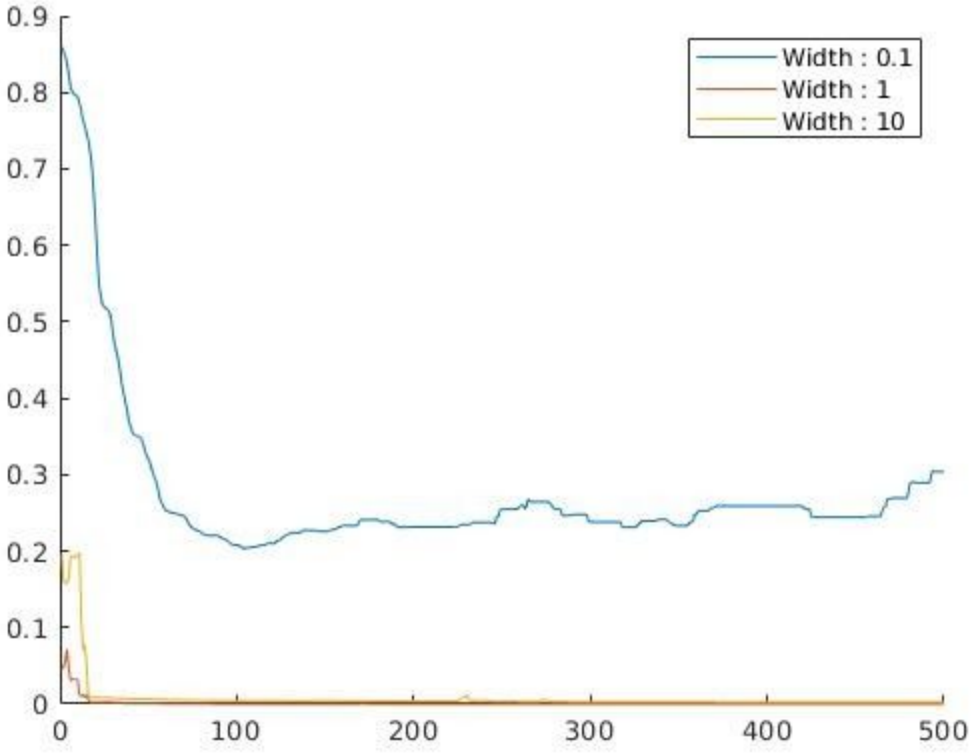
Testing points: 100

Observation of varying width of the gaussian kernel.

Predicted series



Error during training iterations



Comments :

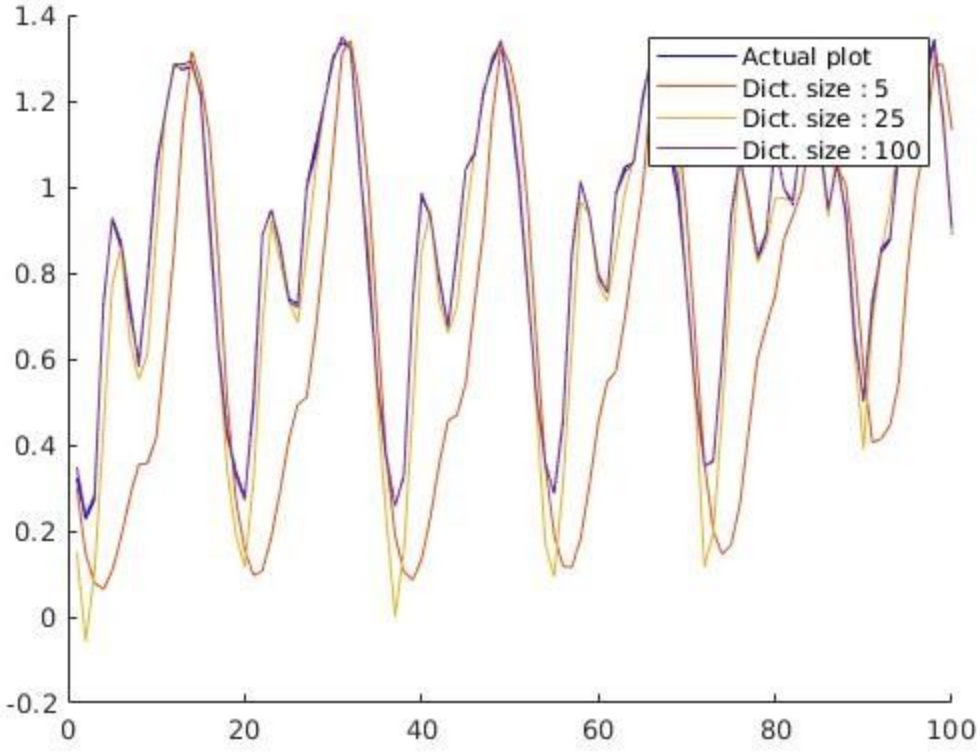
1. We can see that the model with **width: 1** predicts the series perfectly, while 0.1 is very far from actual values, **the width of 10** also works fine but not as good as **the width of 1.**

2. Error on training :
   We can see that **width: 1,** reaches the optimum(zero error) very fast, while **width: 10** reaches slowly, and **width of 0.1** never achieves the zero error.

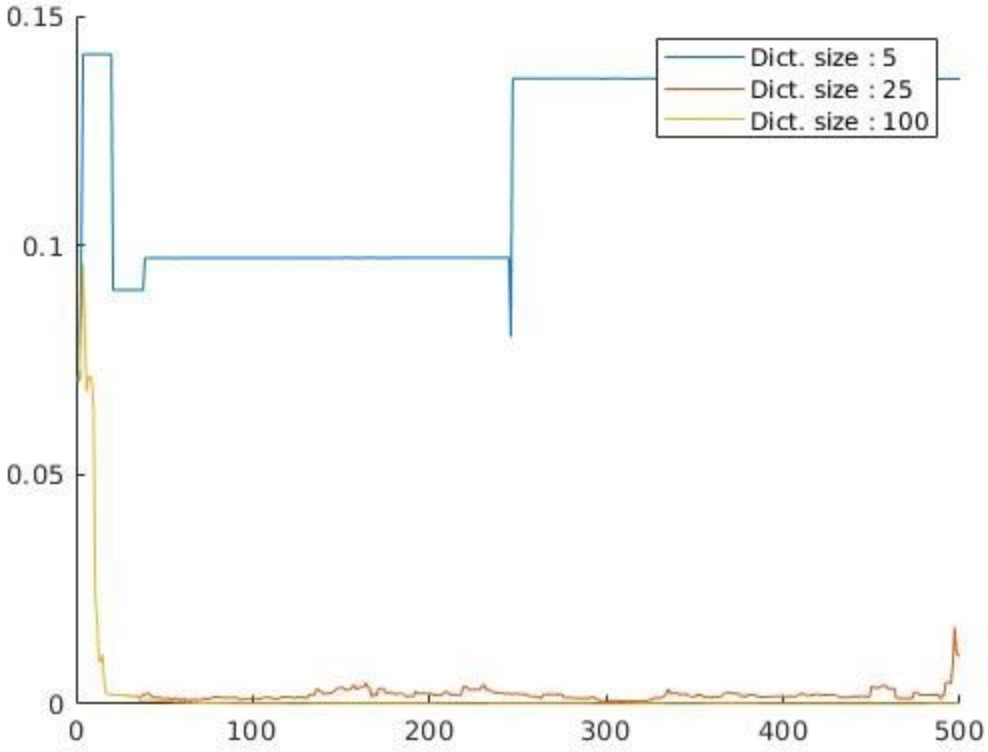
3. By this, we can say that a **width: 1** model is the best pick in terms of speed of convergence and accuracy.

Observations w.r.t the Dictionary size during training

Predicted series



Error during training iterations



Comments

1. We can see that as dictionary size increases, the model gets more closer to true predictions.
2. Hence the higher the dictionary size the better the model will become. This occurs as we will have more samples , more data ⇒ better learning.