

### **Comparison plot between the prediction and target data based on model trained with the coefficient A and the intercept C**

A series of graph below plot entire dataset of 108 cases, including 81 training cases (**Train**) and 27 validation cases (**Test**) using the model with learning rate of 0.025 and 0.99 exponential decay. The x-axis is represents the axial position of the roller, and the y-axis is the distributed force  $f_x$ . For easier observation, all prediction equations (Prediction) and target equations (Target) are plot on the same axial range from -1000 to 1000. As mentioned in Figure 11, although all case have consistent bending levels and bending directions. However, there is still a significant discrepancy in vertical translation along the y-axis in some cases, such as Data #1, #11, #37 ... corresponding to indicated cases in Figure 11b.

























