Selection of an Optimal Range for Gaussian Approximation of original Spectra and Coefficient Extraction for each moment of time

Moment of time

Gaussian

$$A \cdot e^{-(x-B)^2/C^2}$$

A, B, C
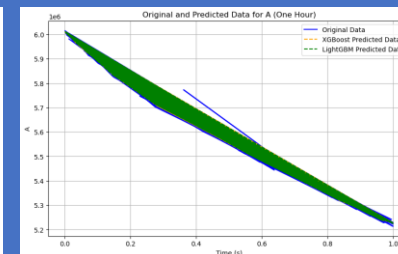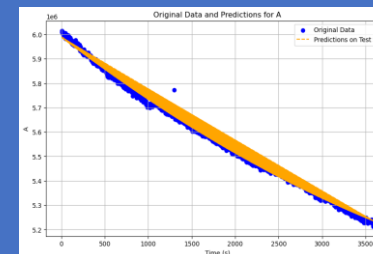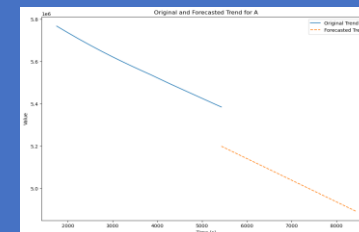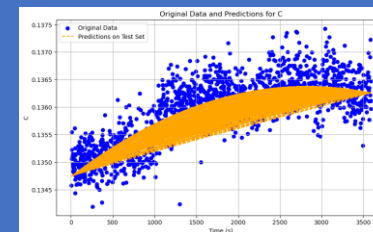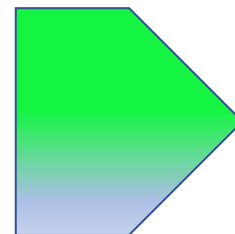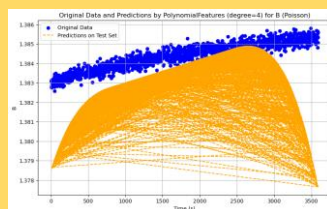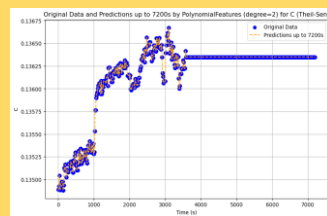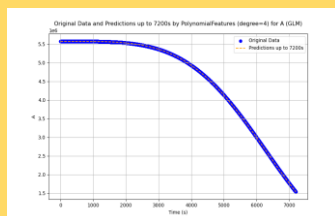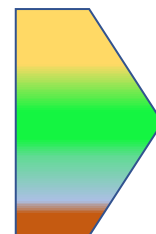
Utilizing different ML Time Forecasting technics to determine most suitable for forecasting A, B, C further

The PolynomialFeatures model emerges as the optimal choice for forecasting the coefficients (A, B, C) of our Gaussian approximations. Conduct a systematic analysis by running the model with 30 distinct regressors and varying polynomial degrees 2..9.
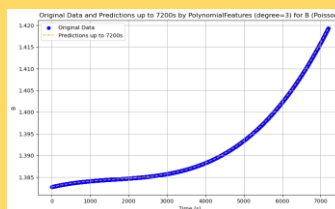
Choosing the best regressor and polynomial degree

As result obtain luminescence degradation of Ag_2S quantum dots