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# Chapter 5 – A survey of new developments between X-ray spectroscopy and machine learning

## Supervised

### Timoshenko, 2017

Predict coordination of Pt nanoparticles from XANES (not EXAFS)

### Timoshenko, 2019

### Matching, Zheng, 2018

### RF, Zheng

### Carbone x2

### Structural info in XANES, Usoltsev, 2020

Used PCA to determined number of MCR (multivariate curve resolution) components

## Unsupervised

### Routh

### Guda

### Tetef

## Forward Problem

### Penfold and Rankine x2

Predict XANES spectra from coordination using DNN

## References