Report on KOTO EMCal Study

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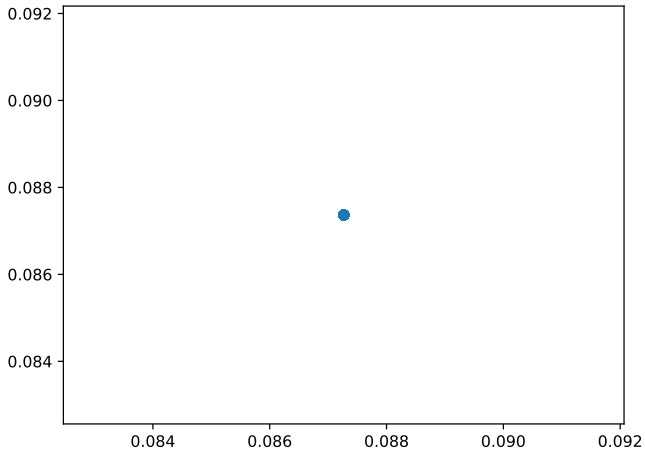
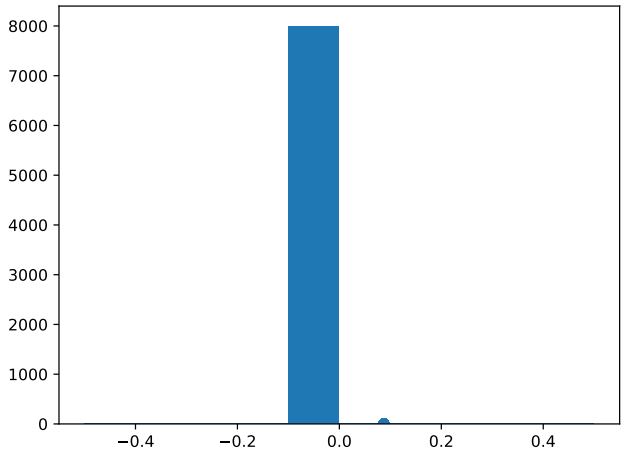
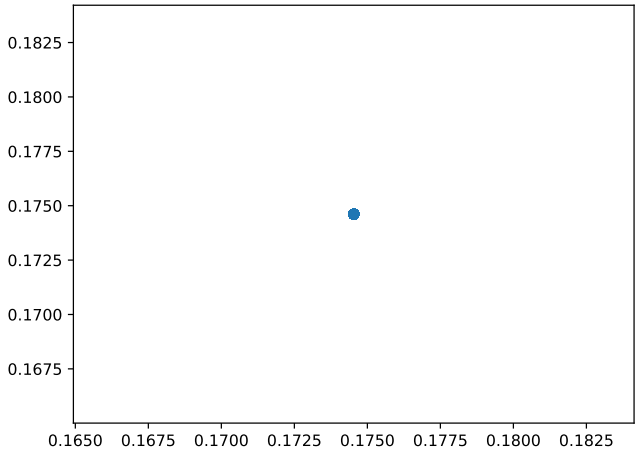
Closure test

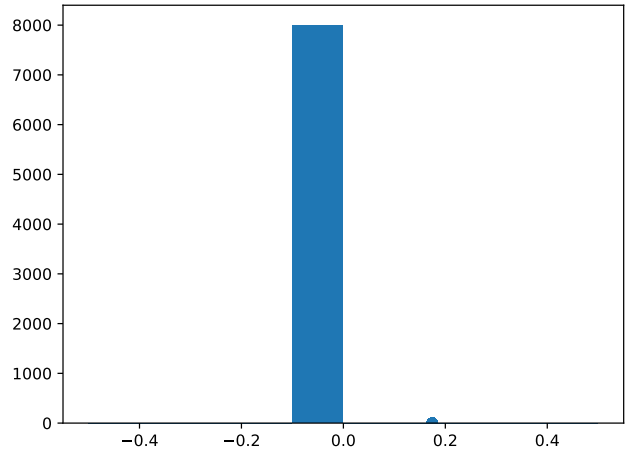


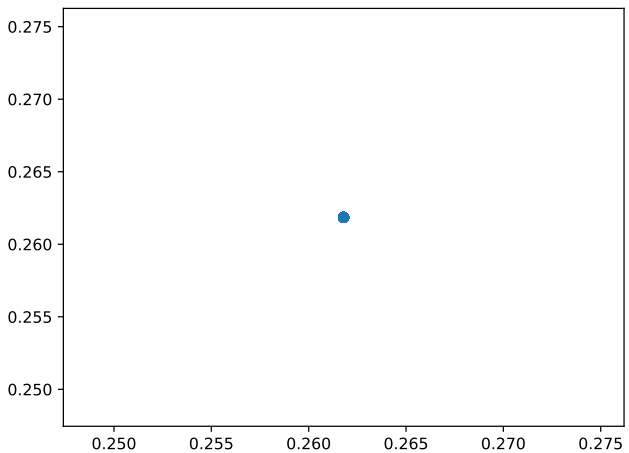


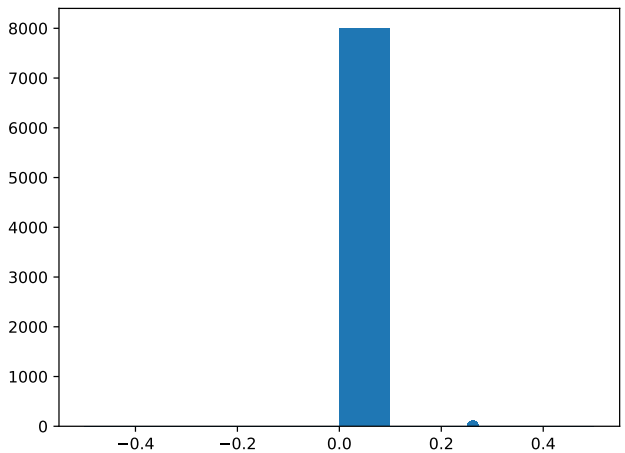
- Generate events with specific incident polar angle (10k)
- 2k events for training and 8k events for test.
- Compare prediction with true value.
  - LEFT : scatter plot with x-axis as true and y-axis as prediction
  - RIGHT : true - prediction
- Incident angle = `(5, 10, 15, 20, 25, 30)`

Closure test









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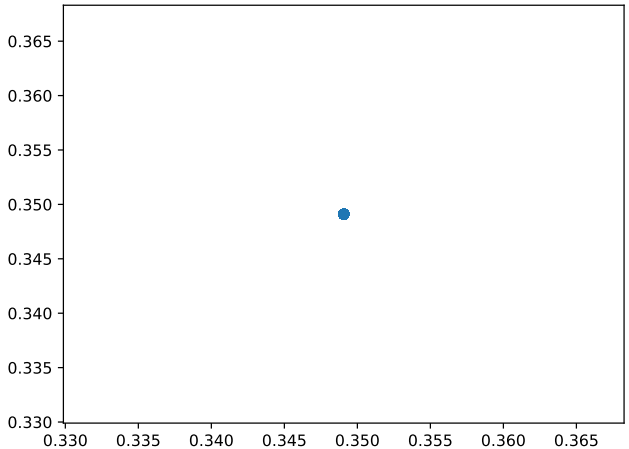

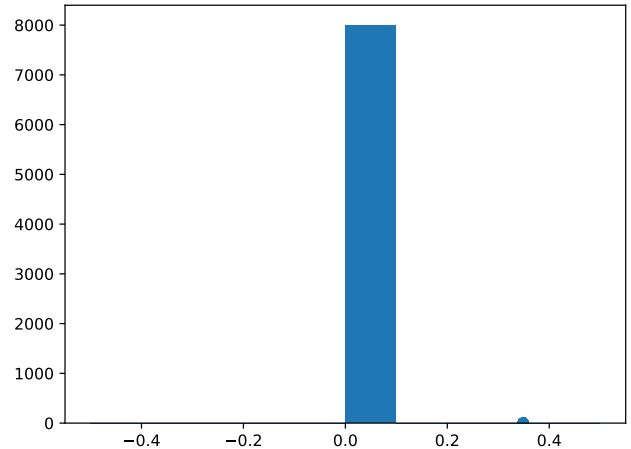

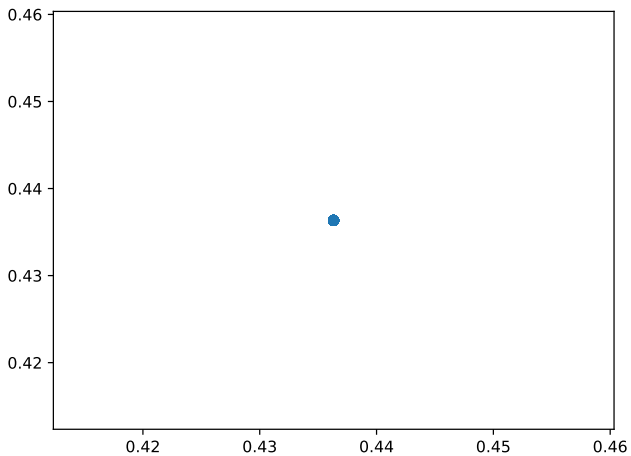

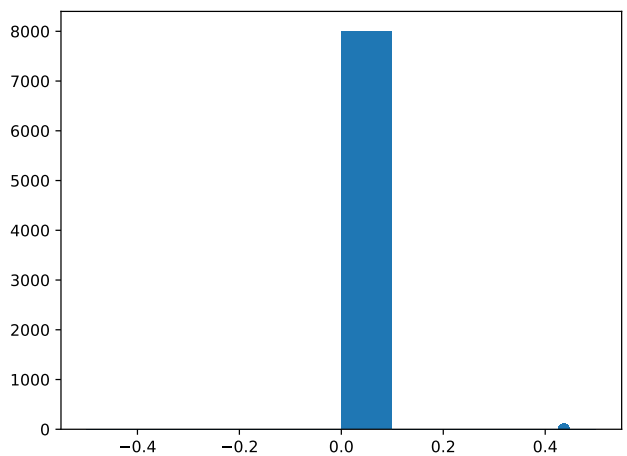

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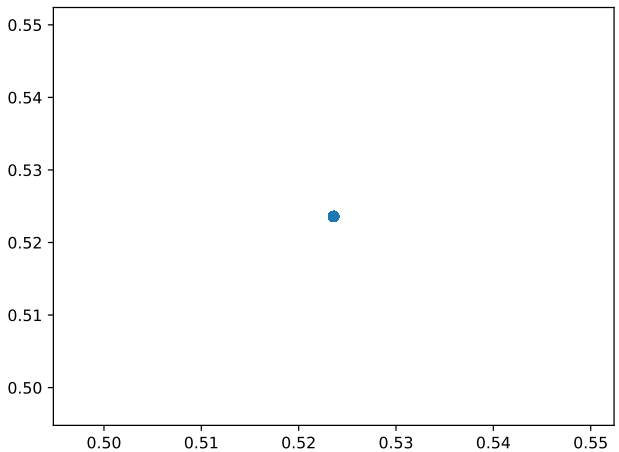

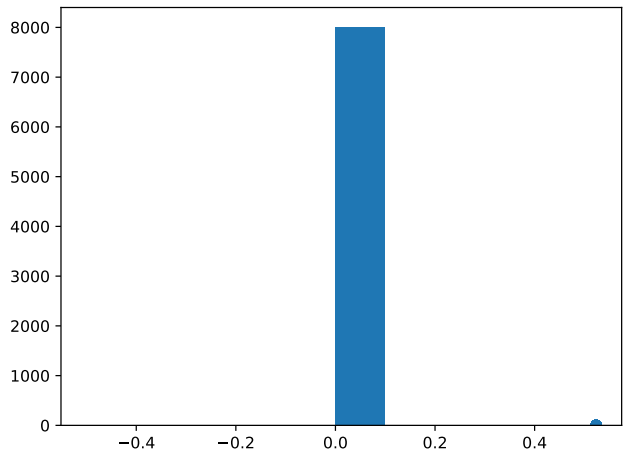

Things to do

- Understand inputs for `XGBRegressor`
- Random generation of initial gamma
- Regression test output
- Validation check?