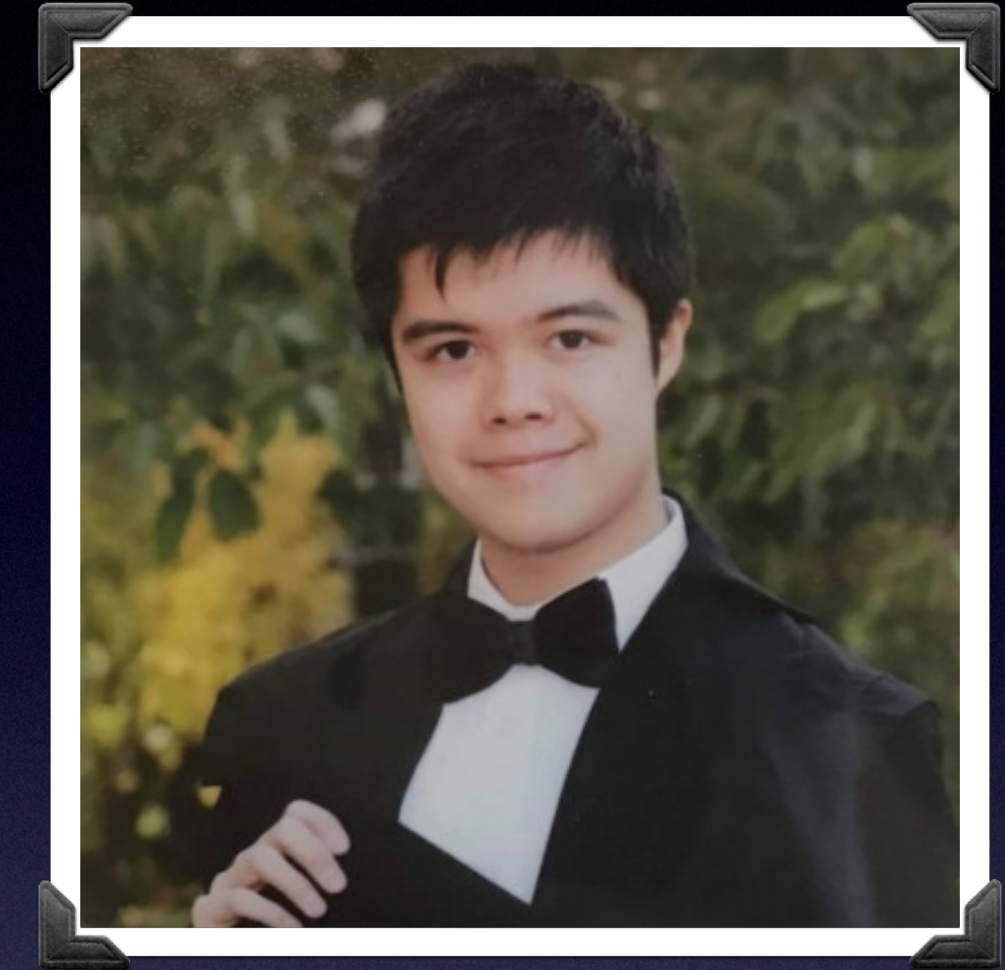


# About Me: Derek Yeung

- From Hong Kong —> Studied Physics in the University of Oxford
- Did research projects on ATLAS, CMS, Super-K (neutrinos)
- Currently doing my PhD in the University of Manchester
- Hobbies:



Boxing & Kickboxing



Tennis



Travelling

# $B \rightarrow D^* l \nu_l$ and LHCb Vertex Locator

Supervisors: Dr. Marco Gersabeck, Dr. Lucia Grillo, Prof. Chris Parkes

- Decay sensitive to new physics (with hints of lepton non-universality)
- Full Angular Analysis

$$H_{eff} = \frac{G_F V_{cb}}{\sqrt{2}} \left( \left( \bar{c} \gamma^\mu (1 - \gamma_5) b \right) \left( \bar{l} \gamma_\mu (1 - \gamma_5) \nu_l \right) + \sum_i c_i^{NP} O_i \right)$$

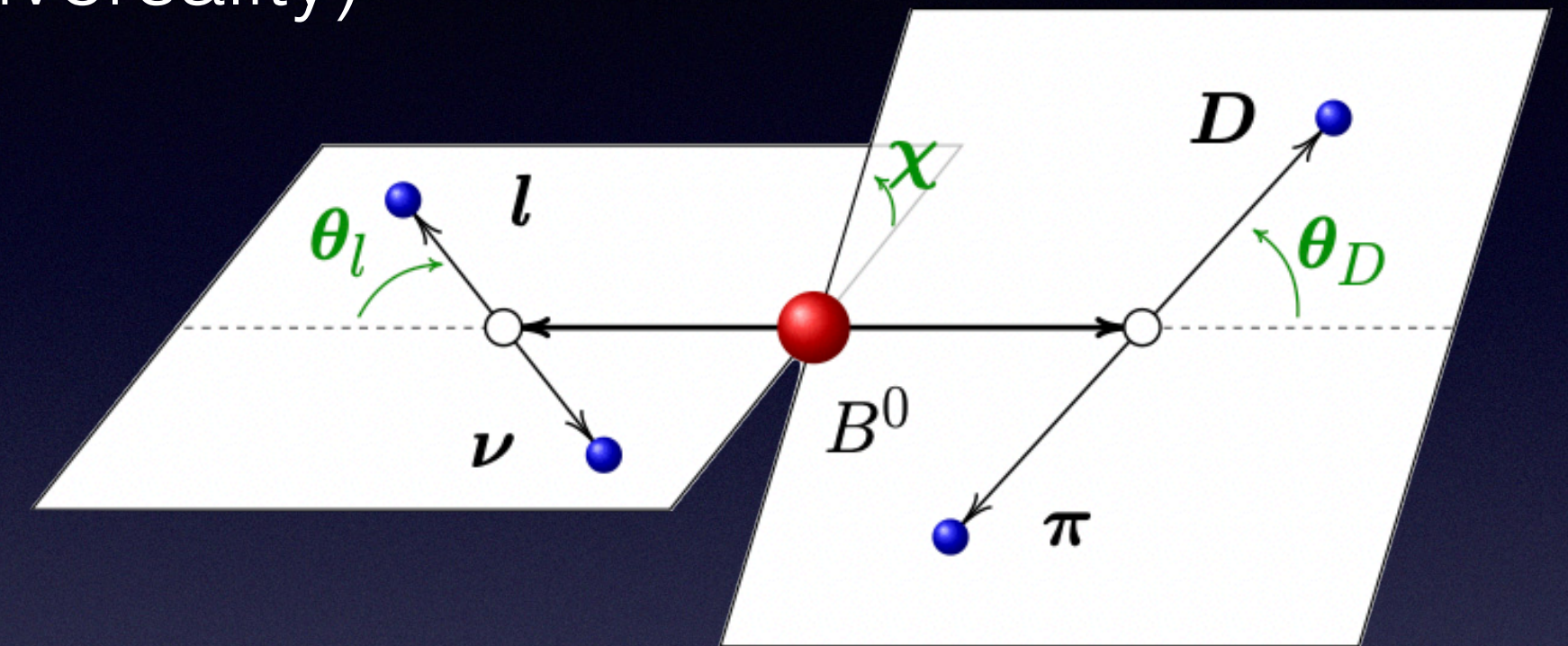


Image taken from Biljana Mitreska Presentation at EPS HEP 2021

- Extract Wilson coefficients  $c^{NP}$  through template fit
- Alignment of Vertex Locator by fitting the alignment parameters
  - Studying the alignment procedure with MC samples
  - Commissioning and evaluating performance for run-3

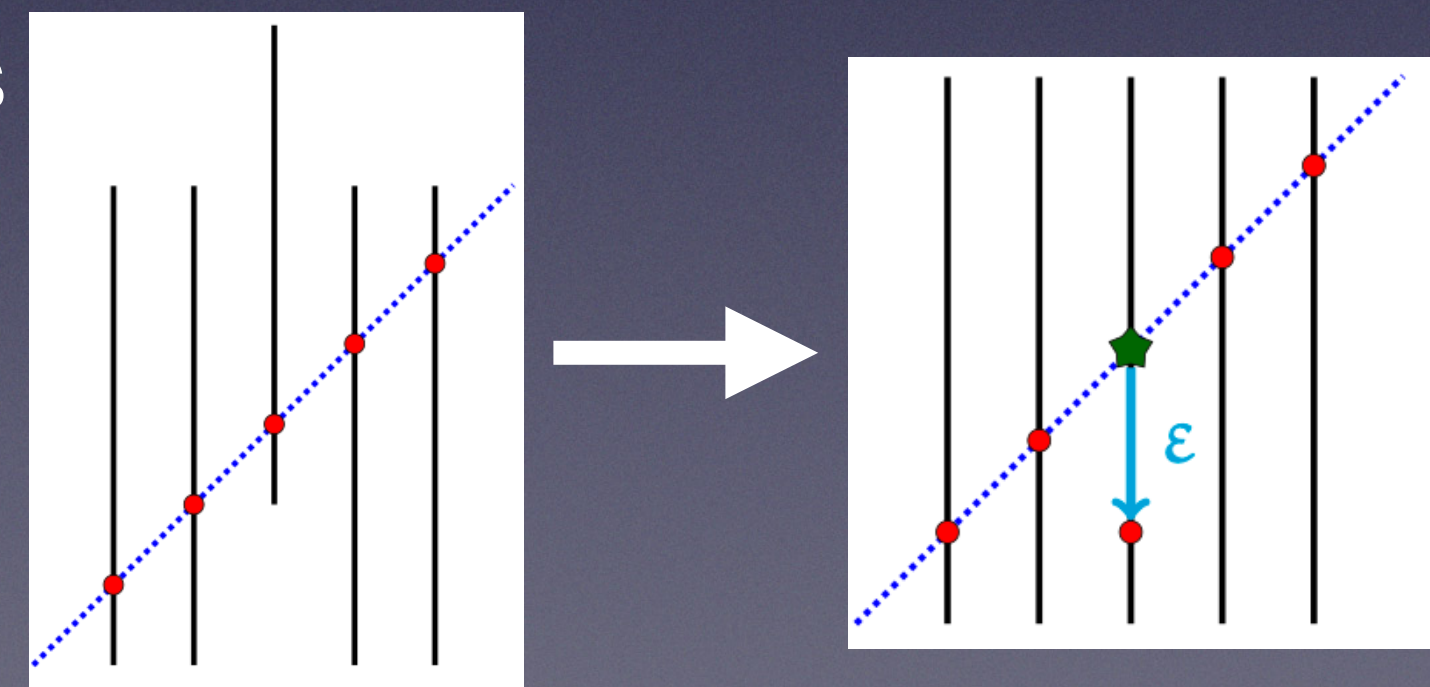


Image taken from Giulio Dujany's PhD Thesis