

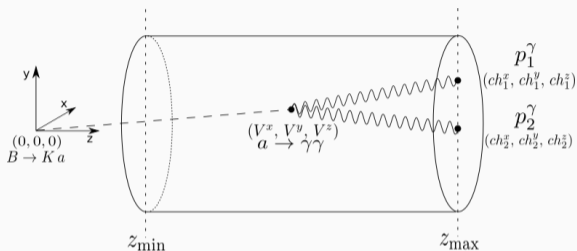
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- Postdoc in the theoretical group at KIT
- Collaboration with Felix Kahlhöfer (theo) and Torben Ferber (exp)
- Background in Dark Matter, LHC and Machine Learning
- Focus in complementarity of prompt and long-lived signatures



# Simulation based inference for ALPs



**Problem:** how well do we need to measure everything to get good estimate for the mass (and lifetime)?

If you have  $\mathcal{L}(\vec{x}|m_a)$  or  $p(m_a|\vec{x})$  you can derive  $\hat{m}_a \pm \sigma_{\hat{m}}$ ,  
**but**  $\vec{x}$  is too high dimensional to derive them analitically,  
so we resort to approximate them with ML