



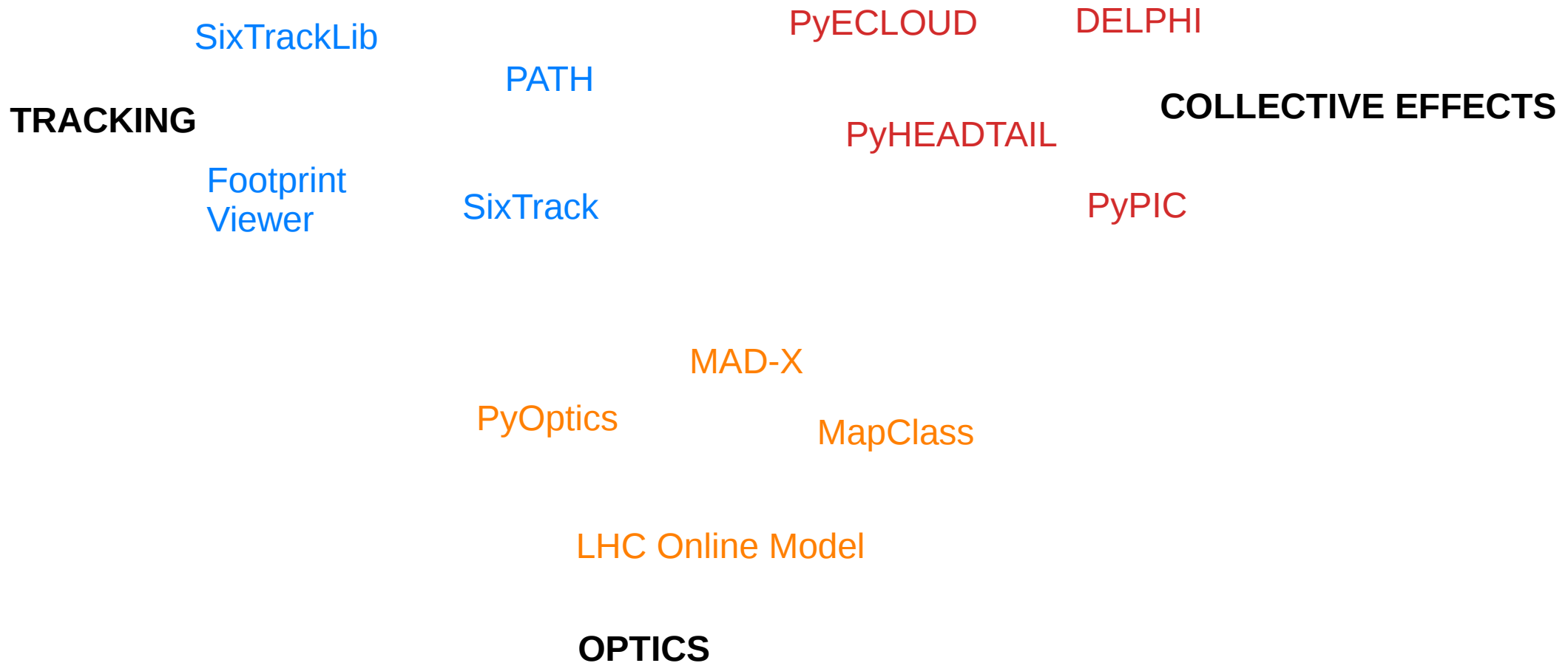
GPGPU Accelerated Beam Dynamics

Meghana Madhyastha

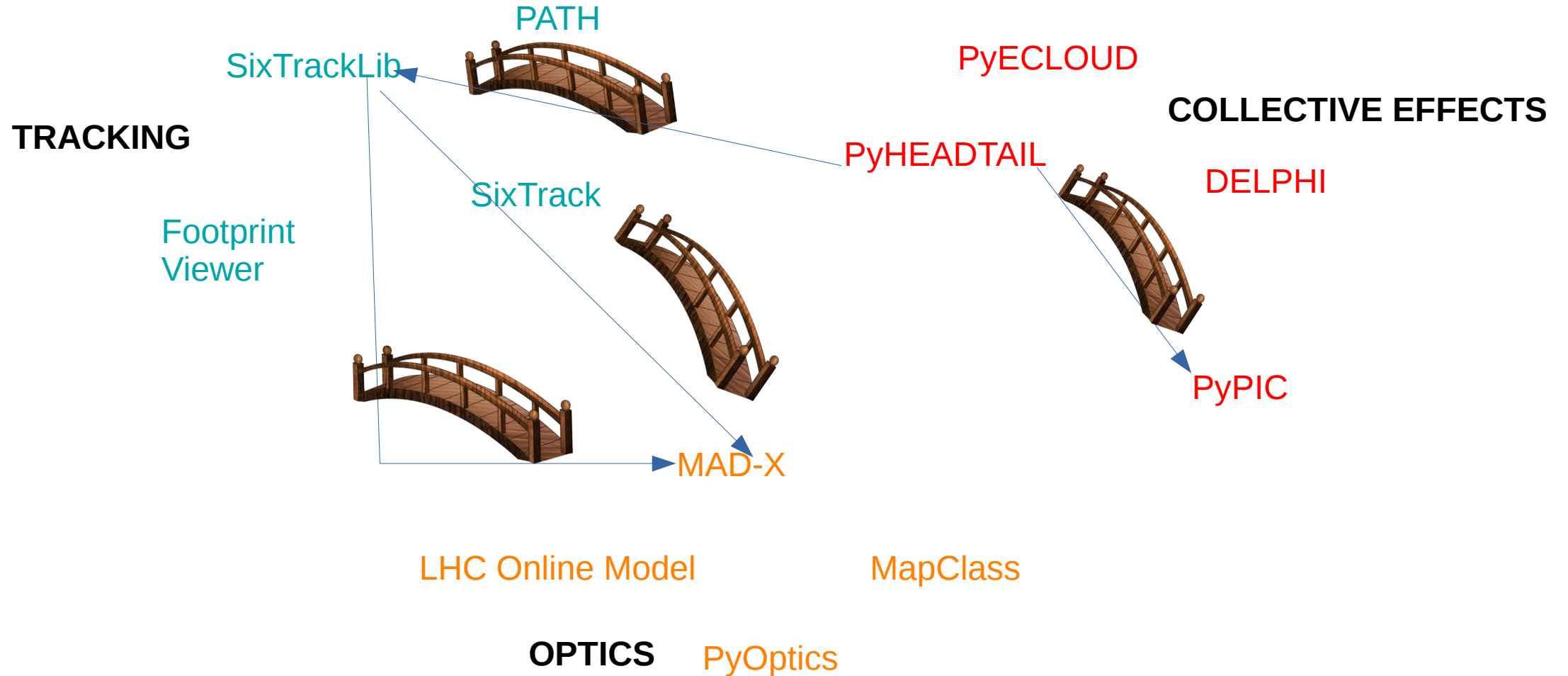
Supervised by: Adrian Oeftiger and Haroon Rafique

BEAM TRACKING CODES

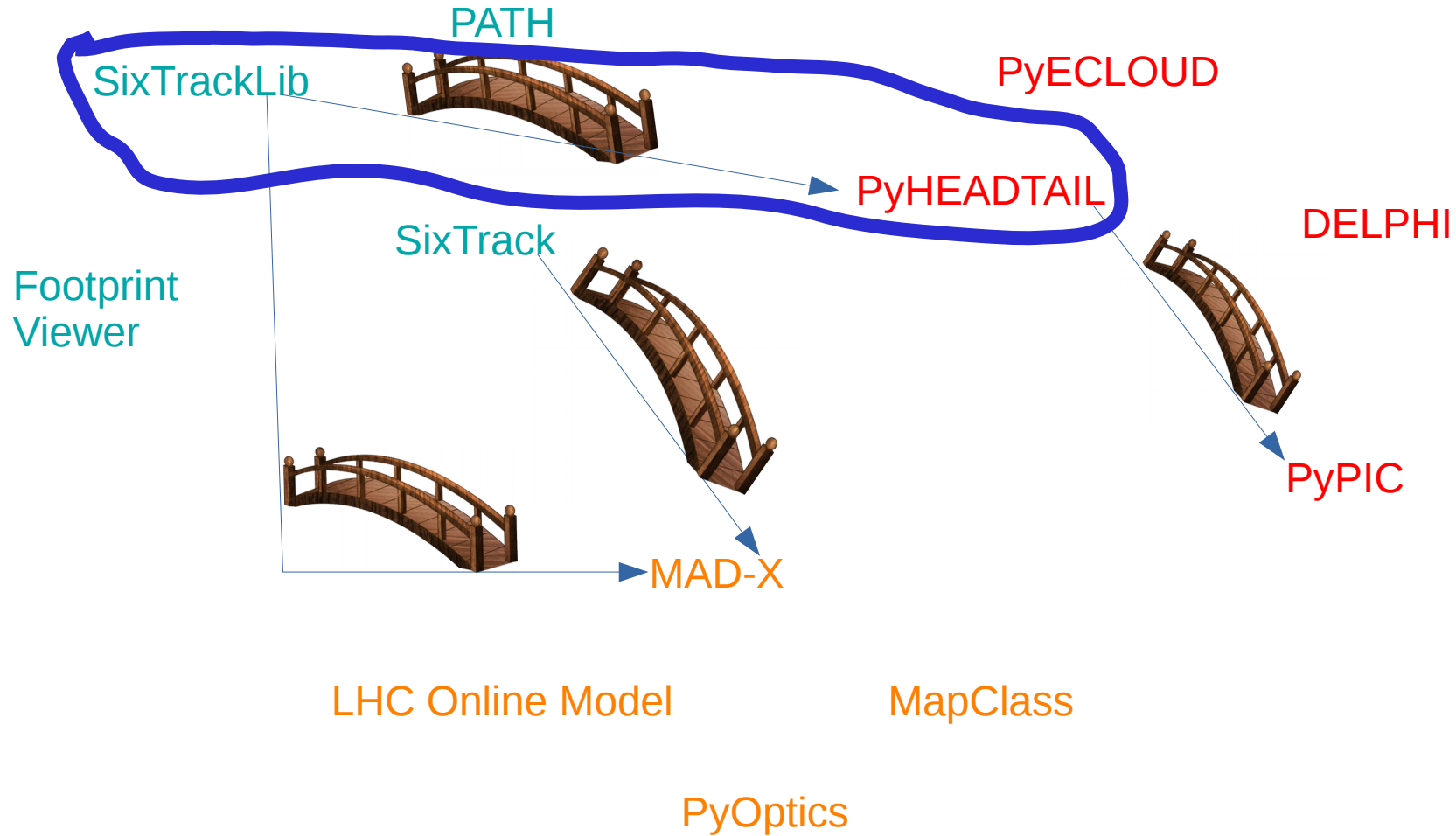
<https://twiki.cern.ch/twiki/bin/view/ABPComputing/Software>



INTERFACING BEAM TRACKING CODE BUILDING BRIDGES



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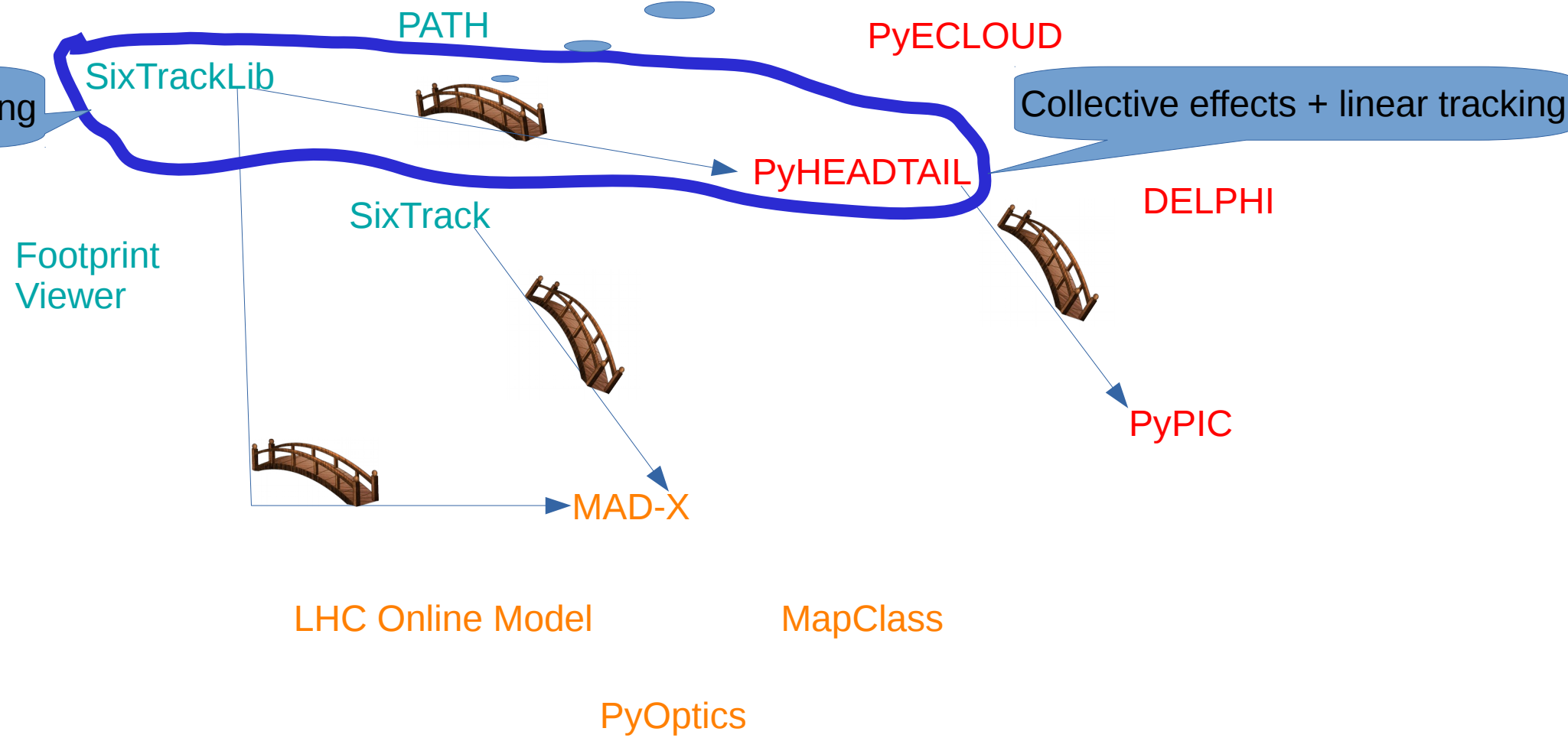


INTERFACING BEAM TRACKING CODE BUILDING BRIDGES

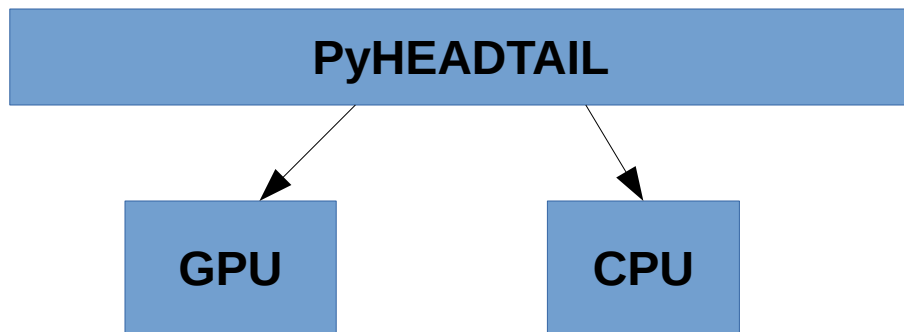
Collective effects + non linear tracking ?

Non-linear tracking

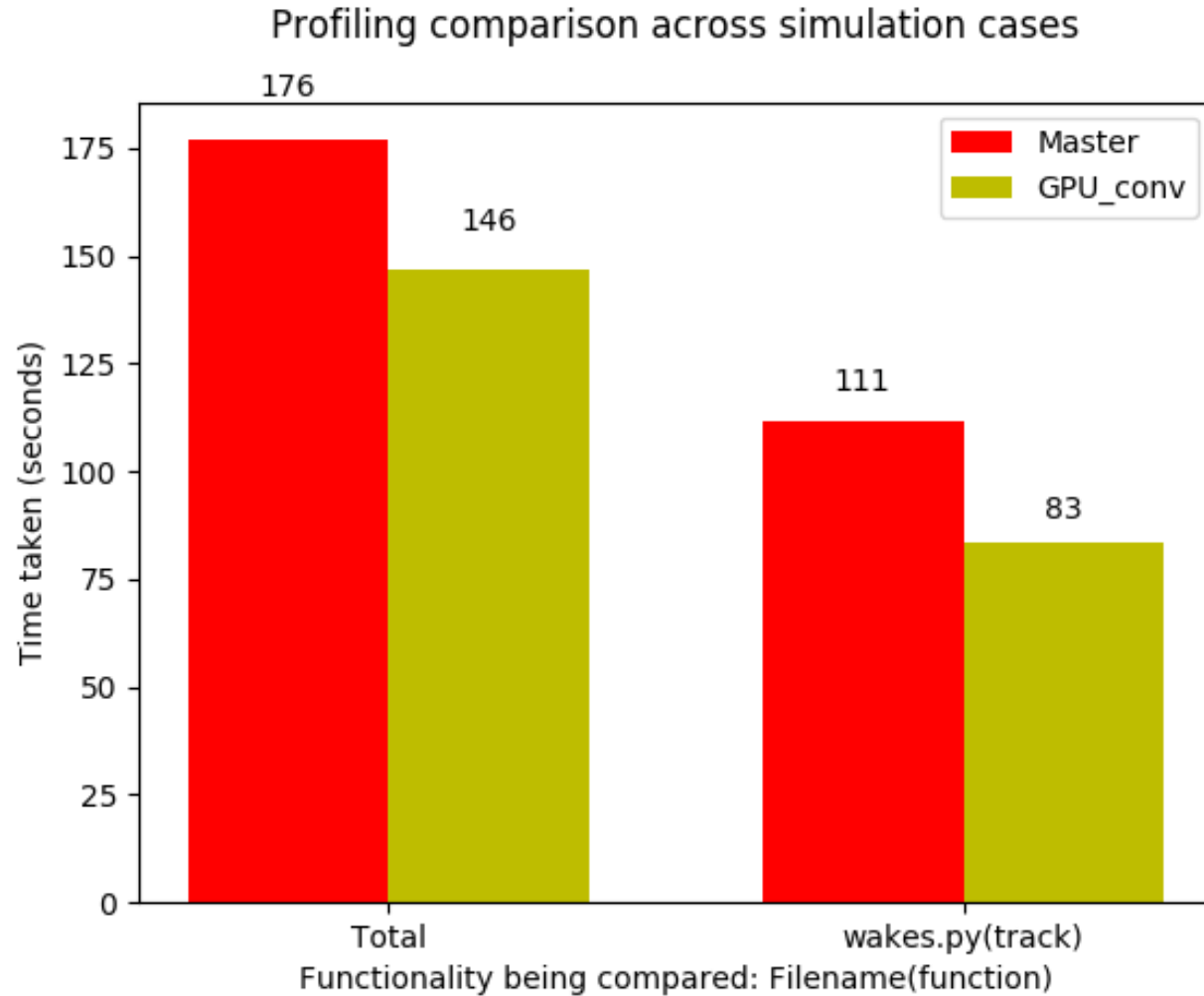
Collective effects + linear tracking



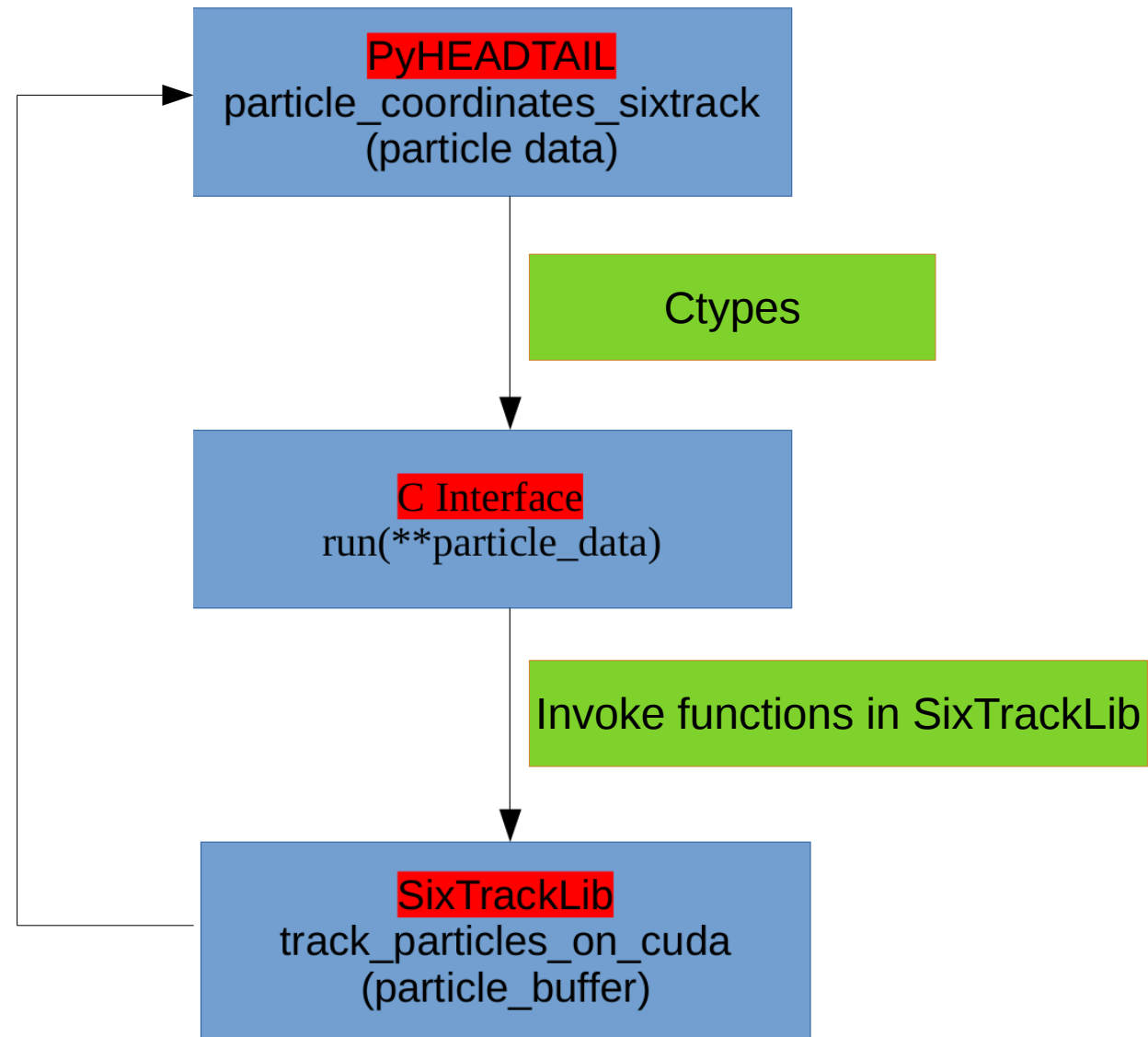
SPEED !



Task 1: Port Wakefields to the GPU



PyHEADTAIL - SixTrackLib Interface





Thank You