ECHEP Generators area update

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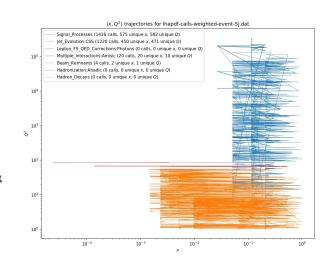
19 June 2020

Generators work package status

- **Main hands-on work has been on profiling Sherpa -> details from Tim Martin**

- **Headlines:**
    - Huge apparent CPU sink into calls to LHAPDF
    - Dominated by ME and parton shower steps
    - Attempted caching in LHAPDF: little effect :-/
    - Need to understand this in detail...
    - Strong argument for combination of LHAPDF & MC gen follow-up work to optimise PDF calls

(x, Q^2) trajectories for lhapdf-calls-weighted-event-5j.dat

- Signal_Processes (1416 calls, 575 unique x, 582 unique Q)
- Jet_Evolution:CSS (1220 calls, 450 unique x, 471 unique Q)
- Lepton_FS_QED_Corrections:Photons (0 calls, 0 unique x, 0 unique Q)
- Multiple_Interactions:Amisic (20 calls, 20 unique x, 10 unique Q)
- Beam_Remnants (4 calls, 2 unique x, 1 unique Q)
- Hadronization:Ahadic (0 calls, 0 unique x, 0 unique Q)
- Hadron_Decays (0 calls, 0 unique x, 0 unique Q)

- **Other areas for proposal:**
    - Technical optimisation and porting ME codes to HPC/accelerator architectures
    - Hadronisation optimisations: HF/excl biasing, port colour reconnection to GPU
    - *Docs and proposal drafting on our GDoc; social engineering important, too!*