STATUS of DVCS, BH, π^0 simulations

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ATHENA Exclusive & Tagging PWG

- We are using the novel EpIC generator
  - Can simulate DVCS and BH separately or the total amplitude: DVCS+BH+INT. Can simulate TCS (see Daria)
  - Uses lookup tables of CFFs
  - Sate of art GPD models: GK, KM20
  - Will soon include state-of-art simulation of radiative effects
  - A modern, more modular version of MILOU3D, used for the Y.R.
  - Now runs on the BNL EIC nodes (help by Kemal Tezgin and Pawel Sznajder)
- Data samples for DVCS have been just produced or currently in production
  - Beam energies (GeV): 18x275, 5x100, 5x41
  - 10M events / configuration
  - GK model (KM20 will follow)
    - two different t dependencies: expopnential (GK) vs dipole (KM20)
    - Kinematical acceptance cuts:
      - $10^{-4} < x < 0.6$ (note these are currently hard limits in EpIC's CFFs tables)
      - $1 < Q^2 < 100$ GeV^2
      - $0.01 < y < 0.95$
      - $0.01 < |t| < 1.6$ GeV^2
    - Validation of distributions → pass samples to Software Group (next week) for full ATHENA detector simulation