

Radiative Corrections from medium to high energy experiments

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Historically, radiative corrections were applied through correction factors to experimental data. Complicated modern experiments require implementing radiative processes in a full experimental simulation. The cross section for internal radiation depends strongly on the angles between photon and lepton lines, rising quickly over multiple orders when the photon is nearly collinear with a lepton. This presents challenges in the efficiency and numerical stability of MC simulations. Current, modern generators overcome this either via brute-force, averaging over small phase space elements to reduce the numerical instability, or by biasing the random number generation. A concerted effort by the community to author next-generation generators, addressing existing issues and incorporating the best available theoretical calculations, is required.

Organizers

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Key Speakers

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