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Particle Physics at LPTHE

Mardi 9 Avril 2024, 14 :00
LPTHE, Library(https ://cern.zoom.us/j/63031219326?pwd=STlDY2l0UTZOTWd3Ty8zaWVQSzNTdz09)
Domaines : hep-ph

Titre : *A closer look at dark photon production modes*

Orateur : **Peter Reimitz (University of Sao Paulo, Brazil)**

Résumé : *High luminosity colliders and fixed target facilities using proton beams are sensitive to new weakly coupled degrees of freedom across a broad mass range. We discuss various production modes for dark vector particles in proton beam experiments. We will have a closer look at bremsstrahlung which is particularly important for dark vectors with masses between 0.5 GeV and 1.5 GeV, due to resonant mixing with hadronic resonances. We revisit the calculation of dark photons via initial state radiation in non-single diffractive scattering, using an improved approach to the splitting function and the timelike electromagnetic form-factor. The framework is benchmarked by applying an analogous calculation to model inclusive rho-meson production, indicating agreement with data from NA27 in the relevant kinematic range.*
