Fragmentation measurements in e⁺e⁻

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最近の破砕関数の結果

- Unpolarized single pion and kaon cross sections (needed for all pol and unpol SIDIS and pp measurements): <u>Leitgab et al Phys.Rev.Lett. 111 (2013) 062002</u>

- di-hadron cross sections for pion and kaon pair combinations as a function of z_1, z_2 and hemisphere + single proton cross sections (for unpol FFs): <u>RS et al Phys.Rev. D92 (2015), 092007</u>

- Di-hadron cross sections for pion and kaon combinations as a function of z and m (for IFF based transversity measurements): <u>RS et al Phys.Rev. D96 (2017) 032005</u>

- Hyperon and charmed baryon cross sections and production rates (di-quark model, baryon fragmentation): 新山、住浜、中野 arXiv:1706.06791

- Lambda Polarization (FF counter part to Sivers function, Preliminary): Guan arXiv:1611.06648

- Two-photon → π^0 transition form factor (g-2): 上原 et al Phys.Rev. D86 (2012) 092007

- Two-photon → hh spectroscopy, GDAs: 増田 et al Phys.Rev. D93(2016) 032003

Babar, BESIII

- Unpolarized pion, kaon and proton multiplicities (BABAR)

- Pion-kaon combinations of Collins asymmetries vs z_1, z_2 and Pt (Important for flavor separation of transversity, BABAR)

- Pion Collins asymmetries vs z1 z2 (for transversity, TMD evolution, BESIII)

これからの計画

- 非偏極の破砕関数の横運動量分布(needed for all 3D momentum structure measurements in SIDIS, RHIC and especially EIC)：di-hadron relative kt and single hadron vs thrust axis kt

- Finalize pion-kaon Collins analysis (again flavor separation of transversity, cross check)

- Pion-kaon IFF asymmetries (flavor separation of transversity in IFF channel at RHIC and EIC)

これからの計画 II

- Explicit two-hadron resonance cross sections (ρ, K*,ϕ, D^o + x)
- Polarizing Λ fragmentation function $H_1(z)$
- Scale dependence via ISR ($e^+e^- \rightarrow e^+e^-\gamma \rightarrow \bar{q}q\gamma$):
  - Unpol FFs
  - Unpol kt dependent FFs
  - Collins asymmetries
- BelleII: Make use of better Vertex detection for uds – charm separation
- All planned measurements, especially ISR also interesting at ILC or CEPC

これからの計画 III

- γγ->hh generalized distribution amplitudes

R.Seidl: 破砕関数の将来計画