

Exclusive Processes W.G.

Conveners: R. Dupre (Orsay), S. Fazio (BNL), T. Lappi (Jyvaskyla), B. Pasquini (Pavia), D. Sokhan (Glasgow)

- Enthusiastic response from the community: **90 registered contributors**
 - Large participation of theorists (~half)
 - A stable “core” of ~35 very active people
- We met twice with the whole group (and three times among the conveners)
 - Bi-weekly meetings on Fridays at 9:00am EST
- Close interaction with detector groups on I.R. and (far)forward detectors and with Diffractive & tagging Phys.
 - This is achieved with shared participation of key people in both WGs.
 - From our side, we would welcome a common discussion at Temple
- Incorporate and augment available studies from the W.P.
- Compiled a spreadsheet with info on the topics of interests & manpower from members.

<https://www.dropbox.com/scl/fi/5nnh4qrknloactm3lnanx/Contributors.xlsx?dl=0&rlkey=1bkhkx167ojabnxjbcfup8j0j>

- All members actively editing an on-line document (overleaf) containing ideas and studies to be performed. This will continue to evolve as new results come in and can eventually set the foundations of our final write-up.

<https://www.overleaf.com/9542372781hhvvjvtbwgtw>

- The overleaf document also contains a preliminary list of benchmark processes (currently on Sec. 2) together with some identified manpower. All is evolving fast!

Benchmark processes

Preliminary outcome of a participated discussion on Feb. 14

- **DVCS**
 - On proton, including polarization (FX Girod, generator: MILOU & studies by S. Fazio, +...)
 - On deuteron: with proton-tagging for measurements on neutron (possibly Genepi, Silvia N.)
 - Coherent on light ions: D with double tagging and He4 (Vadim Guzey, Raphael and Sergio + students)
- **TCS**
 - on proton (Generators: Grape, S. Niccolai)
 - Low Q^2 constraints on electron, high Q'^2
- **Meson production**
 - Heavy: J/Psi and Y - (Elke A. studies for J/Psi, eSTARlight - Spencer K., SARTRE generator, ANL group have generators);
 - can one distinguish Y states?
 - Light: phi ($s\bar{s}$)
 - 2π (includes ρ , f_0 , f_2 ...)
 - π^0 as DVCS background, [A. Kim, FX Girod, S. Fazio]
 - K, η , D-mesons
 - On heavy ions, challenges: $|t|$ reconstruction, suppression of incoherent part (SARTRE, Thomas U., Tobias Toll)
 - Detection of electrons vs muon pairs: which meson decay channel best? (Yulia Furletova?)
 - Charged current production of D-meson via W exchange, (Ivan Schmidt, Siddikov [Siddikov:2019ahb]; Simonetta L.)
 - Backward meson-production (Bill & Bernard P)
- **Exclusivity & rapidity gaps**
 - Overall: How hermetic does the detector need to be to see a rapidity gap? (Rapgap-generator, Daniel T.)