Publication List

Grégory Soyez

Regular articles

1. P. Caucal, E. Iancu, A.H. Mueller, G. Soyez, *Vacuum-like jet fragmentation in a dense QCD medium*, arXiv:1801.09703.
2. B. Ducloué, E. Iancu, T. Lappi, A.H. Mueller, G. Soyez, D.N. Triantafyllopoulos and Y. Zhu, *On the use of a running coupling in the NLO calculation of forward hadron production*, arXiv:1712.07480, submitted to Phys. Rev. D.
3. S. Marzani, L. Schunk, G. Soyez, *The jet mass distribution after Soft Drop*, arXiv:1712.05105, accepted fofr publication in Eur. Phys. J. C.
4. P. Gras, S. Höche, D. Kar, A. Larkoski, L. Lönnblad, S. Plätzer, A. Siódmok, P. Skands, G. Soyez, J. Thaler, *Systematics of quark/gluon tagging*, JHEP **1707** (2017) 091 [arXiv:1704.03878].
5. S. Marzani, L. Schunk, G. Soyez, *A study of jet mass distributions with grooming*, JHEP **1707** (2017) 132 [arXiv:1704.02210].
6. G. Salam, L. Schunk and G. Soyez, *Dichroic subjettiness ratios to distinguish colour flows in boosted boson tagging*, JHEP **1703** (2017) 022 [arXiv:1612.03917].
7. M. Dasgupta, L. Schunk and G. Soyez, *Improved substructure methods: Y-splitter with grooming for boosted object searches*, JHEP **1612** (2016) 079 [arXiv:1609.07149].
8. M. Dasgupta, F. A. Dreyer, G. P. Salam and G. Soyez, *Inclusive jet spectrum for small-radius jets*, JHEP **1606** (2016) 057 [arXiv:1602.01110].
9. M. Dasgupta, L. Schunk and G. Soyez, *Jet shapes for boosted jet two-prong decays from first-principles*, JHEP **1604** (2016) 166 [arXiv:1512.00516].
10. E. Iancu, J. D. Madrigal, A. H. Mueller, G. Soyez and D. N. Triantafyllopoulos, *Collinearly-improved BK evolution meets the HERA data*, Phys. Lett. B **750** (2015) 643 [arXiv:1507.03651].
11. E. Iancu, J. D. Madrigal, A. H. Mueller, G. Soyez and D. N. Triantafyllopoulos, *Resumming double logarithms in the QCD evolution of color dipoles*, Phys. Lett. B **744** (2015) 293 [arXiv:1502.05642].
12. M. Dasgupta, F. Dreyer, G. P. Salam and G. Soyez, *Small-radius jets to all orders in QCD*, JHEP **1504** (2015) 039 [arXiv:1411.5182].
13. M. Cacciari, G. P. Salam and G. Soyez, *SoftKiller, a particle-level pileup removal method*, Eur. Phys. J. C **75** (2015) 2, 59 [arXiv:1407.0408].
14. M. Cacciari, G. P. Salam and G. Soyez, *Use of charged-track information to subtract neutral pileup*, Phys. Rev. D **92** (2015) 1, 014003 [arXiv:1404.7353].
15. A. J. Larkoski, S. Marzani, G. Soyez and J. Thaler, *Soft Drop*, JHEP **1405** (2014) 146 [arXiv:1402.2657].
16. Y. Hatta, C. Marquet, C. Royon, G. Soyez, T. Ueda and D. Werder, *A QCD description of the ATLAS jet veto measurement*, Phys. Rev. D **87** (2013) 5, 054016 [arXiv:1301.1910].
17. M. Alvioli, G. Soyez and D. N. Triantafyllopoulos, *Testing the Gaussian Approximation to the JIMWLK Equation*, Phys. Rev. D **87** (2013) 1, 014016 [arXiv:1212.1656].
18. G. Soyez, G. P. Salam, J. Kim, S. Dutta and M. Cacciari, *Pileup subtraction for jet shapes*, Phys. Rev. Lett. **110** (2013) 16, 162001 [arXiv:1211.2811].
19. M. Cacciari, P. Quiroga-Arias, G. P. Salam and G. Soyez, *Jet Fragmentation Function Moments in Heavy Ion Collisions*, Eur. Phys. J. C **73** (2013) 3, 2319 [arXiv:1209.6086].
20. M. Cacciari, G. Salam and G. Soyez, *FastJet user manual*, Eur. Phys. J. C **72** (2012) 1896 [arXiv:1111.6097], see also `http://www.fastjet.fr`.

21. M. Cacciari, G. Salam and G. Soyez, *Fluctuations and asymmetric jet events in PbPb collisions at the LHC*, Eur. Phys. J. C **71** (2011) 1692 [arXiv:1101.2878].
22. G. Soyez, *A Simple description of jet cross-section ratios*, Phys. Lett. B **698** (2011) 59-62 [arXiv:1101.2665].
23. M. Cacciari, J. Rojo, G. Salam and G. Soyez, *Jet Reconstruction in Heavy Ion Collisions*, Eur. Phys. J. C **71** (2011) 1539 [arXiv:1010.1759].
24. G. Soyez, *Optimal jet radius in kinematic dijet reconstruction*, JHEP **1007** (2010) 075 [arXiv:1006.3634].
25. M. Cacciari, J. Rojo, G. Salam and G. Soyez, *Quantifying the performance of jet definitions for kinematic reconstruction at the LHC*, JHEP **0812** (2008) 032 [arXiv:0810.1304].
26. S. Munier, G.P. Salam and G. Soyez, *Travelling waves and impact parameter correlations*, Phys. Rev. D **78** (2008) 054009, [arXiv:0807.2870].
27. M. Cacciari, G.P. Salam and G.Soyez, *The anti-k_t jet clustering algorithm*, JHEP **0804** (2008) 063 [arXiv:0802.1189].
28. M. Cacciari, G.P. Salam and G.Soyez, *The catchment area of jets*, JHEP **0804** (2008) 005 [arXiv:0802.1188]
29. A. Dumitru, E. Iancu, L. Portugal, G. Soyez and D.N. Triantafyllopoulos, *Pomeron loop and running coupling effects in high energy QCD evolution*, JHEP **0708** (2007) 062 [arXiv:0706.2540].
30. G. Soyez, *Saturation QCD predictions with heavy quarks at HERA*, Phys. Lett. B **655** (2007) 32 [arXiv:0705.3672].
31. Gavin P. Salam and Gregory Soyez, *A Practical Seedless Infrared-Safe Cone jet algorithm*, JHEP **0705** (2007) 086 [arXiv:0704.0292] (see also `http://projects.hepforge.org/siscone/`).
32. C. Marquet, R. Peschanski and G. Soyez *Exclusive vector meson production at HERA from QCD with saturation*, Phys. Rev. D **76** (2007) 034011 [hep-ph/0702171].
33. J.T. de Santana Amaral, M.B. Gay Ducati, M.A. Betemps and G. Soyez, *$\gamma^* p$ cross-section from the dipole model in momentum space*, Phys. Rev. D **76** (2007) 094018 [hep-ph/0612091].
34. E. Iancu, J.T. de Santana Amaral, G. Soyez and D.N. Triantafyllopoulos, *One-dimensional model for QCD at high energy*, Nucl. Phys. A **786** (2007) 131 [hep-ph/0611105].
35. F. Gelis, R. Peschanski, G. Soyez and L. Schoeffel, *Systematics of geometric scaling*, Phys. Lett. B **647** (2007) 376 [hep-ph/0610435].
36. C. Marquet, G. Soyez and B. W. Xiao, *On the probability distribution of the stochastic saturation scale in QCD*, Phys. Lett. B **639** (2006) 635 [hep-ph/0606233].
37. E. Iancu, C. Marquet and G. Soyez, *Forward gluon production in hadron hadron scattering with Pomeron loops*, Nucl. Phys. A **780** (2006) 52 [hep-ph/0605174].
38. Y. Hatta, E. Iancu, C. Marquet, G. Soyez and D. N. Triantafyllopoulos, *Diffusive scaling and the high-energy limit of deep inelastic scattering in QCD at large N_c* Nucl. Phys. A **773** (2006) 95 [hep-ph/0601150].
39. C. Marquet, R. Peschanski and G. Soyez, *Consequences of strong fluctuations on high-energy QCD evolution*, Phys. Rev. D **73** (2006) 114005 [hep-ph/0512186].
40. E. Iancu, G. Soyez and D. N. Triantafyllopoulos, *On the probabilistic interpretation of the evolution equations with Pomeron loops in QCD*, Nucl. Phys. A **768** (2006) 194 [hep-ph/0510094].
41. C. Marquet, R. Peschanski, G. Soyez and A. Bialas, *Traveling waves in discretized Balitsky-Kovchegov evolution*, Phys. Lett. B **633** (2006) 331 [hep-ph/0509216].
42. C. Marquet, R. Peschanski and G. Soyez, *QCD traveling waves at non-asymptotic energies*, Phys. Lett. B **628** (2005) 239 [hep-ph/0509074].
43. G. Soyez, *Fluctuations effects in high-energy evolution of QCD*, Phys. Rev. D **72** (2005) 016007 [hep-ph/0504129].
44. C. Marquet and G. Soyez, *The Balitsky-Kovchegov equation in full momentum space*, Nucl. Phys. A **760** (2005) 208-222 [hep-ph/0504080].
45. C. Marquet, R. Peschanski and G. Soyez, *Traveling waves and geometric scaling at nonzero momentum transfer*, Nucl. Phys. A **756** (2005) 399-418 [hep-ph/0502020].

46. G. Soyez, *Global QCD fit from $Q^2 = 0$ to $Q^2 = 3000$ GeV^2 with Regge-compatible initial condition*, Phys. Rev. D **71** (2005) 076001 [hep-ph/0407098].
47. G. Soyez *Small-Q^2 extension of the DGLAP-constrained Regge residues*, Phys. Lett. B **603** (2004) 189-194 [hep-ph/0401177].
48. G. Soyez, *Regge residues from DGLAP evolution*, Phys. Rev. D **69** (2004) 096005 [hep-ph/0306113].
49. J.R. Cudell, E. Martynov and G. Soyez, *t-channel unitarity and photon cross-sections*, Nucl. Phys. B **682** (2004) 391-420 [hep-ph/0207196].
50. H. J. Pirner, A. I. Shoshi and G. Soyez, $\log(1/x)$ *gluon distribution and structure functions in the loop-loop correlation model*, Eur. Phys. J. C **33** (2004) 63-74 [hep-ph/0309155].
51. H. Caps, H. Decauwer, M-L. Chevalier, G. Soyez, M. Ausloos and N. Vandewalle, *Foam imbition in microgravity*, Eur. Phys. J. B **33** (2003) 115-119 [cond-mat/0108367].
52. G. Soyez, *DGLAP evolution extends the triple pole pomeron fit*, Phys. Rev. D **67** (2003) 076001 [hep-ph/0211361].
53. H. Caps, H. Decauwer, M.-L. Chevalier, G. Soyez, N. Ausloos, and N. Vandewalle, *Foam imbibition in microgravity: An experimental study*, Eur. Phys. J. B **33** (2003) 115 [cond-mat/0108367]
54. J-R. Cudell and G. Soyez, *Does F_2 need a hard pomeron*, Phys. Lett. B **516** (2001) 77-84 [hep-ph/0106307].
55. G. Soyez, *Model for $SU(3)$ vacuum degeneracy using light-cone coordinates*, Phys. Rev. D **63** (2001) 105012 [hep-th/0101072].

Reports

56. G. Soyez, *Pileup mitigation at the LHC: a theorist's view*, arXiv:1801.09721.

Works in preparation (expected winter/spring of 2018)

57. F. Dreyer, L. Necib, G. Soyez and J. Thaler, *Recursive Soft Drop.*
58. D. Napoletano, G. Salam and G. Soyez, *Calculating jet shape variables for boosted jets.*
59. M. Dasgupta, M. Guzzi, J. Rawling and G. Soyez, *Top tagging: an analytical perspective.*
60. S. Marzani, G. Soyez and M. Spannowsky, *Jet substructure*, Springer Lecture Notes.
61. F. Dreyer, G. Salam and G. Soyez, *Deep learning Lund images for improved boosted taggers.*

As part of a community effort

62. D. d'Enterria, P. SkandsJ *et al.*, *Parton Radiation and Fragmentation from LHC to FCC-ee*, arXiv:1702.01329.
63. J. R. Andersen *et al.*, *Les Houches 2015: Physics at TeV Colliders Standard Model Working Group Report*, arXiv:1605.04692.
64. J. R. Andersen *et al.*, *Les Houches 2013: Physics at TeV Colliders: Standard Model Working Group Report*, arXiv:1405.1067.
65. A. Altheimer *et al.*, *Boosted objects and jet substructure at the LHC. Report of BOOST2012, held at IFIC Valencia, 23rd-27th of July 2012*, Eur. Phys. J. C **74** (2014) 3, 2792 [arXiv:1311.2708].
66. J. Alcaraz Maestre *et al.*, *The SM and NLO Multileg and SM MC Working Groups: Summary Report*, Les Houches Summary Report, arXiv:1203.6803.
67. D. Boer *et al.*, *Gluons and the quark sea at high energies: Distributions, polarization, tomography*, The EIC Science case: a report on the joint BNL/INT/JLab program, 547 pages, arXiv:1108.1713.
68. C. Buttar *et al.*, *Standard Model Handles and Candles Working Group: Tools and Jets Summary Report*, Les-Houches working group summary, arXiv:0803.0678.

Conference proceedings

69. E. Iancu, J. D. Madrigal, A. H. Mueller, G. Soyez and D. N. Triantafyllopoulos, *The collinearly-improved Balitsky-Kovchegov equation*, arXiv:1601.06525.
70. E. Iancu, J. D. Madrigal, A. H. Mueller, G. Soyez and D. N. Triantafyllopoulos, *Resumming large higher-order corrections in non-linear QCD evolution*, arXiv:1509.08214.
71. E. Iancu, J. D. Madrigal, A. H. Mueller, G. Soyez and D. N. Triantafyllopoulos, *Resummation of Large Logarithms in the Rapidity Evolution of Color Dipoles*, PoS DIS **2015** (2015) 076 [arXiv:1507.05160].
72. Grégory Soyez, *Seeing jets in heavy-ion collisions*, 4th International Conference on Hard and Electromagnetic Probes of High Energy Nuclear Collisions, Eilat, Israel, Nucl. Phys. A **855** (2011) 32-37 [arXiv:1101.2662].
73. V. Coco, P-A. Delsart, J. Rojo, C. Sander and G. Soyez, *Jets and jet algorithms.* 4th Workshop on the Implications of HERA for LHC Physics, Geneva, Switzerland, Genf 2008, HERA and the LHC, 182-204.
74. Grégory Soyez, *Jet areas as a tool for background subtraction*, 25th Winter Workshop on Nuclear Dynamics, Big Sky, Montana, arXiv:0905.2851.
75. Grégory Soyez, *Recent progress in defining jets*, New Trends in HERA Physics 2008, Ringberg Castle, Tegernsee, Germany, arXiv:0812.2362.
76. Grégory Soyez, *The SISCone and anti-k_t jet algorithms*, DIS 2008, UCL, London, England, arXiv:0807.0021.
77. Grégory Soyez, *The Dipole picture in DIS: Saturation and heavy quarks*, DIS 2008, UCL, London, England, arXiv:0807.0020.
78. J.T. de Santana Amaral, M.A. Betemps, M.B. Gay Ducati and G. Soyez, *The dipole-proton amplitude in momentum space*, 10th International Workshop on Hadron Physics, Florianopolis, Brazil, Int. J. Mod. Phys. **E16** (2007) 2818.
79. J.T. de Santana Amaral, M.A. Betemps, M.B. Gay Ducati and G. Soyez, *BK equation and traveling wave solutions*, 1st Latin American Workshop on High Energy Phenomenology, Porto Alegre, Brazil, Braz. J. Phys. **37** (2007) 648.
80. R. Peschanski, C. Marquet and G. Soyez, *Non-forward Balitsky-Kovchegov equation and vector mesons*, DIS 2007, Munich, Germany, [arXiv:0706.1446].
81. G. Soyez, *QCD at high energy: saturation and fluctuation effects*, 46th Cracow School of Theoretical Physics, Zakopane, Poland, Acta Phys. Polon. B **37** (2006) 3477 [hep-ph/0610436].
82. G. Soyez, *From QCD at high energy to statistical physics and back*, DIS 2006, Tsukuba, Japan [hep-ph/0606229].
83. G. Soyez, *Saturation in high-energy QCD*, ENFPC 2005, Sao Lourenco, Brazil [hep-ph/0605192].
84. G. Soyez, *Fluctuation effects in high-energy QCD*, EDS 2005, Blois, France [hep-ph/0509138].
85. G. Soyez, C. Marquet and R. Peschanski, *Geometric scaling in high-energy QCD at nonzero momentum transfer*, 40th rencontres de Moriond, La Thuile, Italy [hep-ph/0504117].
86. G. Soyez, *New insight in global QCD fits using Regge theory*, HLPR 2004, Liège, Belgium, AIP Conf.Proc.**775** (2005) 88-96 [hep-ph/0502158].
87. G. Soyez, *The triple-pole pomeron: Regge theory and DGLAP evolution*, DIS 2003, St-Petersburg, Russia [hep-ph/0310230].
88. E. Martynov, J. R. Cudell and G. Soyez, *Consequences of t-channel unitarity for the interaction of real and virtual photons at high energies*, Diffraction 2002, Alushta, Ukraine [hep-ph/0211448].
89. J. R. Cudell, E. Martynov and G. Soyez, *Consequences of t-channel unitarity for $\gamma^{(*)}p$ and $\gamma^{(*)}\gamma^{(*)}$ amplitudes*, ICHEP 2002, Amsterdam, The Netherlands [hep-ph/0209281].