

FLArE/FPF physics meetings – future topics

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ASTROCENT



a) PDF fits with the FPF data

hep-ph/2309.09581

The LHC as a Neutrino-Ion Collider

Juan M. Cruz-Martinez¹, Max Fieg², Tommaso Giani^{3,4}, Peter Krack^{3,4}, Toni Mäkelä⁵,
Tanjona Rabemananjara^{3,4}, and Juan Rojo^{3,4}

b) Shallow → DIS scatterings

hep-ph/2307.09241

Neutrino Cross Sections:

Interface of shallow- and deep-inelastic scattering for collider neutrinos

Yu Seon Jeong^{*}

Chung-Ang University, High Energy Physics Center, Dongjak-gu, Seoul 06974, Republic of Korea

Mary Hall Rend[†]

University of Iowa, Department of Physics and Astronomy, Iowa City, Iowa 52242, USA

d) Neutrinos & BSM

hep-ph/2309.10417

Investigating the fluxes and physics potential of LHC neutrino experiments

Felix Kling,^{1,*} Toni Mäkelä,^{2,†} and Sebastian Trojanowski^{3,2,‡}

c) Neutrino flux predictions

CHARM

hep-ph/2306.01578

Forward Neutrinos from Charm at Large Hadron Collider

Atri Bhattacharya,^{1,2,*} Felix Kling,^{3,†} Ina Sarcevic,^{4,5,‡} and Anna M. Stasto^{6,§}

hep-ph/2309.12793

Predictions for Neutrinos and New Physics from Forward Heavy Hadron Production at the LHC

Luca Buonocore,¹ Felix Kling,² Luca Rottoli,¹ and Jonas Sominka³

LIGHT MESONS

hep-ph/2309.08604

Tuning Pythia for Forward Physics Experiments

Max Fieg,¹ Felix Kling,² Holger Schulz,³ and Torbjörn Sjöstrand⁴

hep-ph/2111.05868

Probing Neutrino-Portal Dark Matter at the Forward Physics Facility

Kevin J. Kelly,^{1,2,*} Felix Kling,^{3,4,†} Douglas Tuckler,^{5,‡} and Yue Zhang^{5,§}

hep-ph/2308.11476

Searching for neutrino-modulino oscillations at the Forward Physics Facility

Luis A. Anchordoqui,^{1,2,3} Ignatios Antoniadis,^{4,5} Karim Benakli,⁴ Jules Cunat,⁴ and Dieter Lust^{6,7}

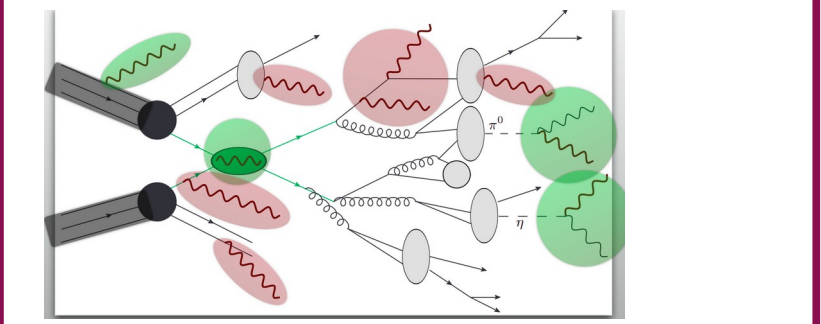
BSM & astro

a) Modeling production of LLPs

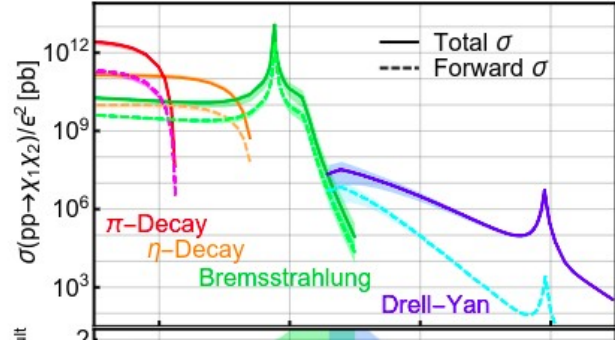
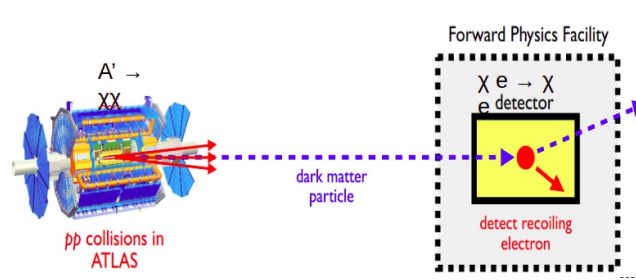
hep-ph/2108.05900
Dark Sector Production via Proton Bremsstrahlung
 Saeid Foroughi-Abari¹ and Adam Ritz¹

Light mesons: Pythia tune hep-ph/2309.08604

Other prod. modes: Peter Reimitz, talk FPF theory days



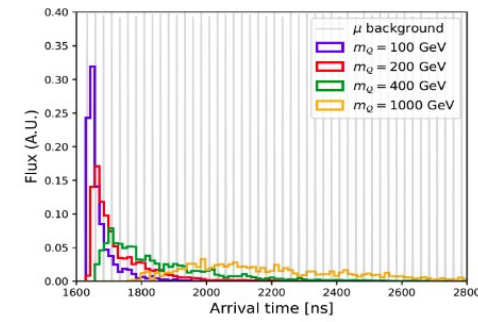
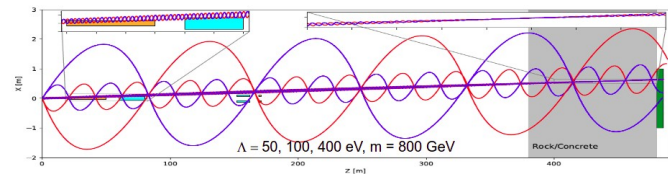
EM showers away from the IP: ST,...



b) Heavy new physics – quirks

The quirk signal at FASER and FASER 2

hep-ph/2108.06748 + J.L. Feng talk at FPF theory days



c) Connections to cosmic-ray physics & muon puzzle

hep-ex/2308.09079
 & D. Soldin, talk at FPF Theory Days
 hep-ph/2202.03095

