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PUBLICATIONS

Papers reported in reverse chronological order

Preprints & Working Papers

- [1] M. Barbetti and L. Anderlini, *Hyperparameter Optimization as a Service on INFN Cloud*, in *21st International Workshop on Advanced Computing and Analysis Techniques in Physics Research*, in preparation for [J. Phys. Conf.](#)
- [2] L. Anderlini *et al.*, *Lamarr: LHCb ultra-fast simulation based on machine learning models*, in *21st International Workshop on Advanced Computing and Analysis Techniques in Physics Research*, in preparation for [J. Phys. Conf.](#)
- [3] E. M. Abenavoli *et al.*, *Characterization of mediastinal bulky lymphomas with FDG-PET-based radiomics and machine learning techniques*, in preparation for [Cancers](#)
- [4] LHCb Collaboration, *Measurement of Υ production in pp collisions at $\sqrt{s} = 5$ TeV*, [arXiv:2212.12664](#)
- [5] LHCb Collaboration, *First observation and branching fraction measurement of the $\Lambda_b^0 \rightarrow D_s^- p$ decay*, [arXiv:2212.12574](#)
- [6] LHCb Collaboration, *Search for rare decays of D^0 mesons into two muons*, [arXiv:2212.11203](#)
- [7] LHCb Collaboration, *Measurement of lepton universality parameters in $B^+ \rightarrow K^+ \ell^+ \ell^-$ and $B^0 \rightarrow K^{*0} \ell^+ \ell^-$ decays*, [arXiv:2212.09153](#)
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- [10] LHCb Collaboration, *Search for $K_{S(L)}^0 \rightarrow \mu^+ \mu^- \mu^+ \mu^-$ decays at LHCb*, [arXiv:2212.04977](#)
- [11] LHCb Collaboration, *Amplitude analysis of $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$ and $B^+ \rightarrow D^- D_s^+ \pi^+$ decays*, [arXiv:2212.02717](#)
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- [14] LHCb Collaboration, *Charmonium production in pNe collisions at $\sqrt{s_{NN}} = 68.5$ GeV*, [arXiv:2211.11645](#)
- [15] LHCb Collaboration, *Open charm production and asymmetry in pNe collisions at $\sqrt{s_{NN}} = 68.5$ GeV*, [arXiv:2211.11633](#)
- [16] LHCb Collaboration, *Long-lived particle reconstruction downstream of the LHCb magnet*, [arXiv:2211.10920](#)

- [17] LHCb Collaboration, *Searches for the rare hadronic decays $B^0 \rightarrow p\bar{p}p\bar{p}$ and $B_s^0 \rightarrow p\bar{p}p\bar{p}$* , [arXiv:2211.08847](#)
- [18] LHCb Collaboration, *First observation of the $B^+ \rightarrow D_s^+ D_s^- K^+$ decay*, [arXiv:2211.05034](#)
- [19] LHCb Collaboration, *Study of the $B^- \rightarrow \Lambda_c^+ \bar{\Lambda}_c^- K^-$ decay*, [arXiv:2211.00812](#)
- [20] LHCb Collaboration, *Observation of a resonant structure near the $D_s^+ D_s^-$ threshold in the $B^+ \rightarrow D_s^+ D_s^- K^+$ decay*, [arXiv:2210.15153](#)
- [21] LHCb Collaboration, *Observation of the $B_s^0 \rightarrow D^{*+} D^{*-}$ decay*, [arXiv:2210.14945](#)
- [22] LHCb Collaboration, *Measurement of the ratio of branching fractions $\mathcal{B}(B_c^+ \rightarrow B_s^0 \pi^+)/\mathcal{B}(B_c^+ \rightarrow J/\psi \pi^+)$* , [arXiv:2210.12000](#)
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- [25] LHCb Collaboration, *Measurement of the Λ_c^+ to D^0 production cross-section ratio in peripheral PbPb collisions*, [arXiv:2210.06939](#)
- [26] LHCb Collaboration, *Search for the lepton-flavour violating decays $B^0 \rightarrow K^{*0}\tau^\pm\mu^\mp$* , [arXiv:2209.09846](#)
- [27] LHCb Collaboration, *Amplitude analysis of the $D_s^+ \rightarrow \pi^- \pi^+ \pi^+$ decay*, [arXiv:2209.09840](#)
- [28] LHCb Collaboration, *Measurement of the CKM angle γ with $B^\pm \rightarrow D [K^\mp \pi^\pm \pi^\pm \pi^\mp] h^\pm$ decays using a binned phase-space approach*, [arXiv:2209.03692](#)
- [29] LHCb Collaboration, *Measurement of the time-integrated CP asymmetry in $D^0 \rightarrow K^- K^+$ decays*, [arXiv:2209.03179](#)
- [30] LHCb Collaboration, *Multidifferential study of identified charged hadron distributions in Z-tagged jets in proton-proton collisions at $\sqrt{s}=13$ TeV*, [arXiv:2208.11691](#)
- [31] LHCb Collaboration, *Study of B_c^+ meson decays to charmonia plus multihadron final states*, [arXiv:2208.08660](#)
- [32] LHCb Collaboration, *Model-independent measurement of charm mixing parameters in $\bar{B} \rightarrow D^0 (\rightarrow K_S^0 \pi^+ \pi^-) \mu^- \bar{\nu}_\mu X$* , [arXiv:2208.06512](#)
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- [35] LHCb Collaboration, *Search for the lepton-flavour violating decays $B^0 \rightarrow K^{*0} \mu^\pm e^\mp$ and $B_s^0 \rightarrow \phi \mu^\pm e^\mp$* , [arXiv:2207.04005](#)
- [36] LHCb Collaboration, *Study of coherent charmonium production in ultra-peripheral lead-lead collisions*, [arXiv:2206.08221](#)
- [37] LHCb Collaboration, *Direct CP violation in charmless three-body decays of B^\pm mesons*, [arXiv:2206.07622](#)
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- [39] LHCb Collaboration, *Measurement of τ_L using the $B_s^0 \rightarrow J/\psi \eta$ decay mode*, [arXiv:2206.03088](#)

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- [41] LHCb Collaboration, *Measurement of the Z boson production cross-section in proton-lead collisions at $\sqrt{s_{NN}} = 8.16$ TeV*, [arXiv:2205.10213](#)
- [42] LHCb Collaboration, *Measurement of antiproton production from antihyperon decays in pHe collisions at $\sqrt{s_{NN}} = 110$ GeV*, [arXiv:2205.09009](#)
- [43] LHCb Collaboration, *Search for CP violation using \hat{T} -odd correlations in $B^0 \rightarrow p\bar{p}K^+\pi^-$ decays*, [arXiv:2205.08973](#)
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- [49] L. Anderlini *et al.*, *Towards Reliable Neural Generative Modeling of Detectors*, in *20th International Workshop on Advanced Computing and Analysis Techniques in Physics Research*, [arXiv:2204.09947](#)
- [50] LHCb Collaboration, *Search for the doubly heavy baryon Ξ_{bc}^+ decaying to $J/\psi\Xi_c^+$* , [arXiv:2204.09541](#)

Conference & Journal Articles

- [1] F. Ratnikov *et al.*, *A full detector description using neural network driven simulation*, in *15th Pisa Meeting on Advanced Detectors*, [Nucl. Instrum. Meth. A](#) **1046** (2023) 167591
- [2] L. Anderlini *et al.*, *Lamarr: the ultra-fast simulation option for the LHCb experiment*, in *41st International Conference on High Energy Physics – PoS(ICHEP2022)*, [414 233](#), 2022
- [3] LHCb Collaboration, R. Aaij *et al.*, *First measurement of the $Z \rightarrow \mu^+\mu^-$ angular coefficients in the forward region of pp collisions at $\sqrt{s} = 13$ TeV*, [Phys. Rev. Lett.](#) **129** (2022) 091801, [arXiv:2203.01602](#)
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- [5] L. Anderlini and M. Barbetti, *scikinC: a tool for deploying machine learning as binaries*, in *Computational Tools for High Energy Physics and Cosmology – PoS(CompTools2021)*, [409 034](#), 2022
- [6] LHCb Collaboration, R. Aaij *et al.*, *Precision measurement of forward Z boson production in proton-proton collisions at $\sqrt{s} = 13$ TeV*, [JHEP](#) **07** (2022) 026, [arXiv:2112.07458](#)
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- [9] LHCb Collaboration, R. Aaij *et al.*, *Angular analysis of $D^0 \rightarrow \pi^+\pi^-\mu^+\mu^-$ and $D^0 \rightarrow K^+K^-\mu^+\mu^-$ decays and search for CP violation*, *Phys. Rev. Lett.* **128** (2022) 221801, [arXiv:2111.03327](#)
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