

# David Fehling

## List of Publications by Year in descending order

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Version: 2024-02-01

73  
papers

4,815  
citations

117625

34  
h-index

91884

69  
g-index

74  
all docs

74  
docs citations

74  
times ranked

7317  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Precise determination of the mass of the Higgs boson and tests of compatibility of its couplings with the standard model predictions using proton collisions at 7 and 8 TeV. European Physical Journal C, 2015, 75, 212.    | 3.9 | 541       |
| 2  | Event generator tunes obtained from underlying event and multiparton scattering measurements. European Physical Journal C, 2016, 76, 155.   | 3.9 | 499       |
| 3  | Combined measurements of Higgs boson couplings in proton-proton collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2019, 79, 421.  | 3.9 | 355       |
| 4  | Observation of a new boson with mass near 125 GeV in pp collisions at $\sqrt{s}=7$ and 8 TeV. Journal of High Energy Physics, 2013, 2013, 1.  | 4.7 | 320       |
| 5  | Search for dark matter, extra dimensions, and unparticles in monojet events in proton-proton collisions at $\sqrt{s} = 8$ TeV. European Physical Journal C, 2015, 75, 235.  | 3.9 | 320       |
| 6  | Searches for electroweak production of charginos, neutralinos, and sleptons decaying to leptons and W, Z, and Higgs bosons in pp collisions at 8 TeV. European Physical Journal C, 2014, 74, 3036.                          | 3.9 | 241       |
| 7  | Transverse-momentum and pseudorapidity distributions of charged hadrons in pp collisions at $\sqrt{s} = 0.9$ and 2.36 TeV. Journal of High Energy Physics, 2010, 2010, 1.   | 4.7 | 230       |
| 8  | Extraction and validation of a new set of CMS pythia8 tunes from underlying-event measurements. European Physical Journal C, 2020, 80, 4.   | 3.9 | 198       |
| 9  | Measurement of the inclusive W and Z production cross sections in pp collisions at $\sqrt{s} = 7$ TeV with the CMS experiment. Journal of High Energy Physics, 2011, 2011, 1.   | 4.7 | 158       |
| 10 | Charged-particle nuclear modification factors in PbPb and pPb collisions at $\sqrt{s_{NN}}=5.02$ TeV. Journal of High Energy Physics, 2017, 2017, 1.  | 4.7 | 103       |
| 11 | Measurements of properties of the Higgs boson decaying into the four-lepton final state in pp collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2017, 2017, 1.   | 4.7 | 101       |
| 12 | Searches for invisible decays of the Higgs boson in pp collisions at $\sqrt{s} = 7, 8,$ and 13 TeV. Journal of High Energy Physics, 2017, 2017, 1.  | 4.7 | 95        |
| 13 | Measurement of the $\overline{t}t$ production cross section, the top quark mass, and the strong coupling constant using dilepton events in pp collisions at. European Physical Journal C, 2019, 79, 368.                    | 3.9 | 68        |
| 14 | Search for new physics in same-sign dilepton events in proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2016, 76, 439.   | 3.9 | 64        |
| 15 | Search for electroweak production of charginos and neutralinos in multilepton final states in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.                                 | 4.7 | 63        |
| 16 | Search for dark matter produced with an energetic jet or a hadronically decaying W or Z boson at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2017, 2017, 1.  | 4.7 | 62        |
| 17 | Search for physics beyond the standard model in events with two leptons of same sign, missing transverse momentum, and jets in proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2017, 77, 578. | 3.9 | 57        |
| 18 | Combined search for electroweak production of charginos and neutralinos in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.  | 4.7 | 57        |

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|----|---|-----|-----------|
| 19 | Measurements of the $\sigma(\text{pp} \rightarrow \text{Z}\text{Z})$ production cross section and the $\text{BR}(\text{Z} \rightarrow 4\ell)$ branching fraction, and constraints on anomalous triple gauge couplings at. European Physical Journal C, 2018, 78, 165.   | 3.9 | 52        |
| 20 | Study of the underlying event at forward rapidity in pp collisions at $\sqrt{s}=0.9, 2.76, 7 \text{ TeV}$ . Journal of High Energy Physics, 2013, 2013, 1.  | 4.7 | 50        |
| 21 | Search for a heavy pseudoscalar boson decaying to a Z and a Higgs boson at $\sqrt{s}=13, \text{ext}\{TeV\}$ . European Physical Journal C, 2019, 79, 564.   | 3.9 | 50        |
| 22 | Measurement of pseudorapidity distributions of charged particles in proton-proton collisions at $\sqrt{s} = 8 \text{ TeV}$ by the CMS and TOTEM experiments. European Physical Journal C, 2014, 74, 1.  | 3.9 | 49        |
| 23 | Search for vector-like quarks in events with two oppositely charged leptons and jets in proton-proton collisions at $\sqrt{s} = 13, \text{ext}\{TeV\}$ . European Physical Journal C, 2019, 79, 364.  | 3.9 | 48        |
| 24 | Measurement of the cross section and angular correlations for associated production of a Z boson with b hadrons in pp collisions at $\sqrt{s} = 7 \text{ TeV}$ . Journal of High Energy Physics, 2013, 2013, 1.   | 4.7 | 47        |
| 25 | Search for standard model production of four top quarks with same-sign and multilepton final states in proton-proton collisions at $\sqrt{s} = 13, \text{ext}\{TeV\}$ . European Physical Journal C, 2018, 78, 140.   | 3.9 | 44        |
| 26 | Search for natural and split supersymmetry in proton-proton collisions at $\sqrt{s}=13 \text{ TeV}$ in final states with jets and missing transverse momentum. Journal of High Energy Physics, 2018, 2018, 1.   | 4.7 | 43        |
| 27 | Search for low mass vector resonances decaying into quark-antiquark pairs in proton-proton collisions at $\sqrt{s}=13 \text{ TeV}$ . Journal of High Energy Physics, 2018, 2018, 1.   | 4.7 | 42        |
| 28 | Measurement of the top quark mass in the all-jets final state at $\sqrt{s}=13, \text{ext}\{TeV\}$ and combination with the lepton+jets channel. European Physical Journal C, 2019, 79, 313.   | 3.9 | 40        |
| 29 | Measurement of the $Z \rightarrow b\bar{b}$ cross section in pp collisions at $\sqrt{s} = 7 \text{ TeV}$ . Journal of High Energy Physics, 2012, 2012, 1.   | 4.7 | 39        |
| 30 | Measurement of the ZZ production cross section and search for anomalous couplings in $2\ell, 2\ell, \ell\ell$ final states in pp collisions at $\sqrt{s}=7 \text{ TeV}$ . Journal of High Energy Physics, 2013, 2013, 1.  | 4.7 | 39        |
| 31 | Searches for third-generation squark production in fully hadronic final states in proton-proton collisions at $\sqrt{s}=8 \text{ TeV}$ . Journal of High Energy Physics, 2015, 2015, 1.   | 4.7 | 37        |
| 32 | Search for resonant and nonresonant Higgs boson pair production in the $b\bar{b} \rightarrow \ell\ell$ final state in proton-proton collisions at $\sqrt{s}=13 \text{ TeV}$ . Journal of High Energy Physics, 2018, 2018, 1.  | 4.7 | 36        |
| 33 | Observation of Z decays to four leptons with the CMS detector at the LHC. Journal of High Energy Physics, 2012, 2012, 1.  | 4.7 | 34        |
| 34 | Measurement of the top quark mass with lepton+jets final states using $\text{pp} \rightarrow \text{t}\bar{\text{t}} + \text{lepton} + \text{jets}$ collisions at $\sqrt{s}=13, \text{ext}\{TeV\}$ . European Physical Journal C, 2018, 78, 891.   | 3.9 | 34        |
| 35 | Measurement of $\sigma(\text{pp} \rightarrow \text{t}\bar{\text{t}})$ normalised multi-differential cross sections in $\text{pp} \rightarrow \text{t}\bar{\text{t}} + \text{lepton} + \text{jets}$ collisions at $\sqrt{s}=13, \text{ext}\{TeV\}$ , and simultaneous determination of the strong coupling strength, top quark pole mass, and parton distribution functions. European Physical Journal C, 2020, 80, 1. | 3.9 | 33        |
| 36 | Measurement of $\sigma(\text{pp} \rightarrow \text{t}\bar{\text{t}})$ angular correlations based on secondary vertex reconstruction at $\sqrt{s} = 7, \text{ext}\{TeV\}$ . Journal of High Energy Physics, 2011, 2011, 1.   | 4.7 | 32        |

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|----|--|-----|-----------|
| 37 | Measurements of the $Z Z$ production cross sections in the $2u \rightarrow 2l + \frac{1}{2}$ channel in proton-proton collisions at $\sqrt{s} = 7$ and $8$ TeV. European Physical Journal C, 2015, 75, 511.              | 3.9 | 32        |
| 38 | A multi-dimensional search for new heavy resonances decaying to boosted $W W$ , $W Z$ , or $Z Z$ boson pairs in the dijet final state at $13.6$ TeV. European Physical Journal C, 2020, 80, 237.                         | 3.9 | 31        |
| 39 | Measurements of the associated production of a Z boson and b jets in pp collisions at $\sqrt{s} = 8$ TeV. European Physical Journal C, 2017, 77, 751.  | 3.9 | 30        |
| 40 | Search for new physics in events with a leptonically decaying Z boson and a large transverse momentum imbalance in proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2018, 78, 291.          | 3.9 | 27        |
| 41 | Ratios of dijet production cross sections as a function of the absolute difference in rapidity between jets in proton-proton collisions at $\sqrt{s} = 7$ TeV. European Physical Journal C, 2012, 72, 1.                 | 3.9 | 26        |
| 42 | Measurement of energy flow at large pseudorapidities in pp collisions at $\sqrt{s} = 0.9$ and 7 TeV. Journal of High Energy Physics, 2011, 2011, 1.  | 4.7 | 25        |
| 43 | Measurement of the triple-differential dijet cross section in proton-proton collisions at $\sqrt{s} = 8$ TeV and constraints on parton distribution functions. European Physical Journal C, 2017, 77, 746.               | 3.9 | 23        |
| 44 | Search for dark matter and unparticles in events with a Z boson and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2017, 2017, 1.                       | 4.7 | 23        |
| 45 | Search for direct pair production of supersymmetric partners to the $\tau^+ \tau^-$ lepton in proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2020, 80, 189.                               | 3.9 | 22        |
| 46 | Measurement of normalized differential $\overline{\sigma}(\tau^+ \tau^-)$ cross sections in the dilepton channel from pp collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.               | 4.7 | 18        |
| 47 | Search for standard model production of four top quarks in the lepton + jets channel in pp collisions at $\sqrt{s} = 8$ TeV. Journal of High Energy Physics, 2014, 2014, 1.  | 4.7 | 17        |
| 48 | Constraints on the double-parton scattering cross section from same-sign W boson pair production in proton-proton collisions at $\sqrt{s} = 8$ TeV. Journal of High Energy Physics, 2018, 2018, 1.                       | 4.7 | 17        |
| 49 | Measurement of charged particle spectra in minimum-bias events from proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2018, 78, 697.   | 3.9 | 17        |
| 50 | Measurement of the inclusive production cross sections for forward jets and for dijet events with one forward and one central jet in pp collisions at $\sqrt{s} = 7$ TeV. Journal of High Energy Physics, 2012, 2012, 1. | 4.7 | 16        |
| 51 | Measurement of dijet azimuthal decorrelation in pp collisions at $\sqrt{s} = 8$ TeV. European Physical Journal C, 2016, 76, 536.   | 3.9 | 16        |
| 52 | Measurement of associated Z + charm production in proton-proton collisions at $\sqrt{s} = 8$ TeV. European Physical Journal C, 2018, 78, 287.  | 3.9 | 16        |
| 53 | Measurements of differential production cross sections for a Z boson in association with jets in pp collisions at $\sqrt{s} = 8$ TeV. Journal of High Energy Physics, 2017, 2017, 1.                                     | 4.7 | 14        |
| 54 | Mixed higher-order anisotropic flow and nonlinear response coefficients of charged particles in $PbPb$ collisions at $\sqrt{s_{NN}} = 2.76$ and 5.02 TeV. European Physical Journal C, 2020, 80, 534.                    | 3.9 | 14        |

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|----|---|-----|-----------|
| 55 | Jet properties in PbPb and pp collisions at $\sqrt{s_{\mathrm{NN}}}=5.02$ TeV. Journal of High Energy Physics, 2018, 2018, 1.   | 4.7 | 13        |
| 56 | Comparing transverse momentum balance of b jet pairs in pp and PbPb collisions at $\sqrt{s_{\mathrm{NN}}}=5.02$ TeV. Journal of High Energy Physics, 2018, 2018, 1.   | 4.7 | 12        |
| 57 | Search for a heavy resonance decaying to a pair of vector bosons in the lepton plus merged jet final state at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.   | 4.7 | 11        |
| 58 | Study of the underlying event in top quark pair production in $\mathrm{pp}$ collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2019, 79, 123.  | 3.9 | 11        |
| 59 | Search for a light pseudoscalar Higgs boson produced in association with bottom quarks in pp collisions at $\sqrt{s}=8$ TeV. Journal of High Energy Physics, 2017, 2017, 1.   | 4.7 | 10        |
| 60 | Study of dijet events with a large rapidity gap between the two leading jets in pp collisions at $\sqrt{s}=7$ TeV. European Physical Journal C, 2018, 78, 242.  | 3.9 | 10        |
| 61 | Evidence for $\mathrm{W}^+\mathrm{W}^-$ production from double-parton interactions in proton-proton collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2020, 80, 1.  | 3.9 | 10        |
| 62 | Search for lepton-flavor violating decays of heavy resonances and quantum black holes to $e\tau$ final states in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.              | 4.7 | 9         |
| 63 | Search for a heavy resonance decaying to a top quark and a vector-like top quark in the lepton + jets final state in pp collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2019, 79, 1.                          | 3.9 | 9         |
| 64 | Pseudorapidity distributions of charged hadrons in proton-lead collisions at $\sqrt{s_{\mathrm{NN}}}=5.02$ and 8.16 TeV. Journal of High Energy Physics, 2018, 2018, 1.   | 4.7 | 8         |
| 65 | Azimuthal separation in nearly back-to-back jet topologies in inclusive 2- and 3-jet events in $\mathrm{pp}$ collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2019, 79, 773.                                   | 3.9 | 8         |
| 66 | Search for supersymmetry in events with at least three electrons or muons, jets, and missing transverse momentum in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.           | 4.7 | 6         |
| 67 | Measurement of the inclusive $\sigma(\mathrm{t}\bar{\mathrm{t}})$ cross section in pp collisions at $\sqrt{s}=5.02$ TeV using final states with at least one charged lepton. Journal of High Energy Physics, 2018, 2018, 1. | 4.7 | 5         |
| 68 | Search for new phenomena in final states with two opposite-charge, same-flavor leptons, jets, and missing transverse momentum in pp collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.         | 4.7 | 5         |
| 69 | Measurement of energy flow at large pseudorapidities in pp collisions at ( $\sqrt{s}=0.9$ ) and 7 TeV. , 2011, 2011, 1.   |     | 5         |
| 70 | Measurement of single-diffractive dijet production in proton-proton collisions at $\sqrt{s}=8$ TeV with the CMS and TOTEM experiments. European Physical Journal C, 2020, 80, 1164.   | 3.9 | 5         |
| 71 | Characterisation of irradiated thin silicon sensors for the CMS phase II pixel upgrade. European Physical Journal C, 2017, 77, 1.   | 3.9 | 4         |
| 72 | Measurement of differential cross sections in the kinematic angular variable $\tilde{\chi}^*$ for inclusive Z boson production in pp collisions at $\sqrt{s}=8$ TeV. Journal of High Energy Physics, 2018, 2018, 1.         | 4.7 | 4         |

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|----|---|-----|-----------|
| 73 | Search for ZZ resonances in the $2\hat{\alpha}, "2\hat{1}\frac{1}{2}$ final state in proton-proton collisions at 13 TeV. Journal of High Energy Physics, 2018, 2018, 1. | 4.7 | 4         |