

Loyal Durand

List of Publications by Year in descending order

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95
papers

3,016
citations

147566

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168136

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98
all docs

98
docs citations

98
times ranked

734
citing authors

#	ARTICLE	IF	CITATIONS
1	Fractional operators and multi-integral representations for associated Legendre functions. Journal of Mathematical Physics, 2022, 63, .	0.5	1
2	Reply to "Comment on "Coulomb-nuclear interference effects in proton-proton scattering: A simple new eikonal approach". Physical Review D, 2021, 103, .	1.6	0
3	Coulomb-nuclear interference effects in proton-proton scattering: A simple new eikonal approach. Physical Review D, 2020, 102, .	1.6	6
4	Eikonal and asymptotic fits to high-energy data for $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle \tilde{f} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$, $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle \tilde{I} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$, and $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle B \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$: An update with curvature corrections. Physical Review D, 2019, 99, .	1.6	3
5	Complex Asymptotics in \tilde{I} for the Gegenbauer Functions C_{\pm}^{λ} ; \tilde{I}_{\pm} ; \tilde{I}_{\pm} ; (z) ; and \tilde{I}_{\pm} ; Symmetry, 2019, 11, 1465.		4
6	Asymptotic Bessel-function expansions for Legendre and Jacobi functions. Journal of Mathematical Physics, 2019, 60, 013501.	0.5	4
7	Evidence for a break in the spectrum of astrophysical neutrinos. Physical Review D, 2017, 95, .	1.6	24
8	Slope, curvature, and higher parameters in pp scattering, and the extrapolation of measurements of $d\tilde{f}(s,t)/dt \big _{t=0}$. Physical Review D, 2016, 93, .	1.6	5
9	Eikonal fit to $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle p \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ and $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mover} \text{accent="true"} \rangle \langle \text{mml:mi} \rangle p \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ scattering and the edge in the scattering amplitude. Physical Review D, 2015, 92, .	1.6	19
10	Analytic solution to leading order coupled DGLAP evolution equations: A new perturbative QCD tool. Physical Review D, 2011, 83, .	1.6	28
11	A new numerical method for inverse Laplace transforms used to obtain gluon distributions from the proton structure function. European Physical Journal C, 2011, 71, 1.	1.4	4
12	Decoupling the NLO coupled DGLAP evolution equations: an analytic solution to pQCD. European Physical Journal C, 2010, 69, 425-431.	1.4	29
13	Analytic treatment of leading-order parton evolution equations: Theory and tests. Physical Review D, 2009, 79, .	1.6	25
14	Analytic derivation of the leading-order gluon distribution function $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle G \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle x \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$, $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle Q^2 \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$.		

#	ARTICLE	IF	CITATIONS
19	Test of the Goldstone-boson approximation with fermions. Physical Review D, 1997, 55, 1533-1547.	1.6	2
20	Two-loop $O(GF^2 M_H^4)$ corrections to the fermionic decay rates of the Higgs boson. Physical Review D, 1995, 51, 5007-5015.	1.6	25
21	Onset of strong interactions in the Higgs sector of the Standard Model: $H\hat{A}^+\hat{f}\hat{f}\hat{A}^-$ at two loops [Phys. Rev. Lett. 72, 2534 (1994)]. Physical Review Letters, 1995, 74, 1699-1699.	2.9	23
22	Onset of strong interactions in the Higgs sector of the standard model: $H\hat{A}^+\hat{f}\hat{f}\hat{A}^-$ at two loops. Physical Review Letters, 1994, 72, 2534-2537.	2.9	31
23	Two-loop unitarity constraints on the Higgs boson coupling. Physical Review D, 1993, 48, 1084-1096.	1.6	24
24	High-energy photon-nucleon and photon-nucleus cross sections. Physical Review D, 1993, 48, 1048-1060.	1.6	14
25	Two-loop renormalization constants and high-energy $2\hat{A}^+\hat{A}^-$ scattering amplitudes in the Higgs sector of the standard model. Physical Review D, 1993, 48, 1061-1083.	1.6	37
26	Jets and jet multiplicities in high-energy photon-nucleon interactions. Physical Review D, 1993, 47, R4815-R4819.	1.6	4
27	Perturbative unitarity and high-energy $W\hat{L}\hat{A}^{\pm}, Z\hat{L}, H$ scattering. One-loop corrections and the Higgs-boson coupling. Physical Review D, 1992, 45, 3112-3127.	1.6	34
28	Implications of unitarity for low-energy $W\hat{L}\hat{A}^{\pm}, Z\hat{L}$ scattering. Physical Review D, 1991, 44, 127-138.	1.6	13
29	Meson-proton scattering at high energies. Physical Review D, 1991, 43, 2125-2130.	1.6	7
30	One-loop perturbative unitarity and the Higgs-boson mass: A new approach. Physical Review Letters, 1990, 64, 1215-1218.	2.9	59
31	Ultrahigh-energy photonuclear cross sections. Physical Review D, 1990, 42, 263-267.	1.6	13
32	Matrix methods for the numerical solution of relativistic wave equations. Journal of Mathematical Physics, 1990, 31, 2237-2243.	0.5	23
33	Semi-hard QCD and high-energy $pp\hat{A}^{\pm}$ scattering. Physical Review D, 1989, 40, 1436-1445.	1.6	81
34	Unitarity constraints on grand unified models. Physical Review D, 1989, 40, 207-222.	1.6	27
35	Relativistic description of quark-antiquark bound states. Spin-independent treatment. Physical Review D, 1989, 40, 843-854.	1.6	67
36	High-energy nucleon-nucleus scattering and cosmic-ray cross sections. Physical Review D, 1988, 38, 78-84.	1.6	63

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37	Final-state electronic interactions in allowed beta decay. <i>Physical Review C</i> , 1988, 37, 535-543.	1.1	13
38	Probabilistic derivation of parton splitting functions. <i>Physical Review D</i> , 1987, 36, 2840-2845.	1.6	13
39	QCD and rising cross sections. <i>Physical Review Letters</i> , 1987, 58, 303-306.	2.9	231
40	Energy and Regge residues in quantum-mechanical $\hat{H} \sim \hat{H}_0 + \hat{V}$ sum rules. <i>Physical Review D</i> , 1986, 33, 3441-3448.	1.6	0
41	Improved Fermi-Segré formula for $\hat{H} \sim -(\nabla^2 + V(r))\psi = 0$ for singular and nonsingular potentials. <i>Physical Review A</i> , 1986, 33, 2899-2906.	1.0	6
42	Improved WKB radial wave functions in several bases. <i>Physical Review A</i> , 1986, 33, 2887-2898.	1.0	13
43	Behavior of relativistic wave functions near the origin for a QCD potential. <i>Physical Review D</i> , 1985, 32, 1257-1259.	1.6	17
44	Field-strength formulation of gauge theories. The Hamiltonian approach in the Abelian theory. <i>Physical Review D</i> , 1984, 30, 1754-1762.	1.6	4
45	Salpeter equation in position space: Numerical solution for arbitrary confining potentials. <i>Physical Review D</i> , 1984, 30, 660-670.	1.6	66
46	Connection of relativistic and nonrelativistic wave functions in the calculation of leptonic widths. <i>Physical Review D</i> , 1984, 30, 1904-1915.	1.6	28
47	The Shifman-Vainshtein-Zakharov method: Why it works, why it fails, and ways to improve it. <i>Physical Review D</i> , 1983, 28, 607-623.	1.6	17
48	Analytic solution of the relativistic Coulomb problem for a spinless Salpeter equation. <i>Physical Review D</i> , 1983, 28, 396-406.	1.6	49
49	Short-time perturbation theory and nonrelativistic duality. <i>Physical Review D</i> , 1983, 28, 597-606.	1.6	12
50	Relativistic duality, and relativistic and radiative corrections for heavy-quark systems. <i>Physical Review D</i> , 1982, 25, 2312-2327.	1.6	42
51	Field-strength formulation of gauge theories: Transformation of the functional integral. <i>Physical Review D</i> , 1982, 26, 1368-1379.	1.6	21
52	Stability and oscillations of a soap film: An analytic treatment. <i>American Journal of Physics</i> , 1981, 49, 334-343.	0.3	21
53	Duality for heavy-quark systems. <i>Physical Review D</i> , 1981, 23, 1092-1102.	1.6	65
54	Duality for heavy-quark systems. II. Coupled channels. <i>Physical Review D</i> , 1981, 23, 1531-1538.	1.6	6

#	ARTICLE	IF	CITATIONS
55	Addition Formulas for Jacobi, Gegenbauer, Laguerre, and Hyperbolic Bessel Functions of the Second Kind. SIAM Journal on Mathematical Analysis, 1979, 10, 425-437.	0.9	12
56	Product Formulas and Nicholson-Type Integrals for Jacobi Functions. I: Summary of Results. SIAM Journal on Mathematical Analysis, 1978, 9, 76-86.	0.9	44
57	Energy dependence and scaling of the spin-correlation and polarization parameters in elastic proton-proton scattering. Physical Review D, 1977, 15, 352-354.	1.6	2
58	A Symmetrical Addition Formula for the Laguerre Polynomials. SIAM Journal on Mathematical Analysis, 1977, 8, 541-546.	0.9	2
59	Expansion formulas and addition theorems for Gegenbauer functions. Journal of Mathematical Physics, 1976, 17, 1933-1948.	0.5	55
60	S-matrix treatment of many overlapping resonances. Physical Review D, 1976, 14, 3174-3185.	1.6	15
61	Resonance-sum model for Reggeization in the scattering of particles with arbitrary spin. Physical Review D, 1976, 13, 1409-1429.	1.6	2
62	Transition radiation from ultrarelativistic particles. Physical Review D, 1975, 11, 89-105.	1.6	29
63	Transition Radiation from Interstellar Dust Grains. Astrophysical Journal, 1973, 182, 417.	1.6	8
64	Backward π -N Scattering: A Regge-Pole-Cut Model without Parity Doubling. Physical Review D, 1971, 3, 195-198.	1.6	6
65	General Parametrization of Trajectory and Residue Functions for Daughter Regge Poles. Physical Review Letters, 1969, 22, 261-265.	2.9	6
66	S-Matrix Description of K and K_S^0 Decays. Physical Review Letters, 1969, 23, 59-62.	2.9	16
67	General Form of Regge Trajectory and Residue Functions in the Scattering of Particles with Spin. Physical Review Letters, 1969, 23, 201-205.	2.9	6
68	Diffraction Model for High-Energy π - π Scattering. Physical Review Letters, 1968, 20, 637-640.	2.9	192
69	The Lorentz Expansion for Scattering Amplitudes. Physical Review Letters, 1968, 21, 1654-1658.	2.9	8
70	Regge-Pole Exchange and Direct-Channel Resonances in Models for High-Energy Scattering Amplitudes. Physical Review, 1968, 166, 1680-1690.	2.7	12
71	Regge-Pole Models for Pion Exchange Reactions. Physical Review Letters, 1967, 19, 1345-1348.	2.9	6
72	Connection between Regge-Pole and Single-Particle Exchange Models for High-Energy Reactions. Physical Review, 1967, 161, 1610-1611.	2.7	37

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73	Subsidiary Regge Trajectories with Singular Residues. Nucleon-Nucleon Scattering. Physical Review Letters, 1967, 18, 58-62.	2.9	43
74	Regge Poles in the Scattering of Particles of Unequal Mass. Remark on a Paper of Freedman and Wang. Physical Review, 1967, 154, 1537-1539.	2.7	50
75	Coulomb Corrections to the Beta Decay of O^{14} . Physical Review, 1966, 146, 638-650.	2.7	4
76	Decay of the θ^0 Meson, and the Possible Existence of a $T=0$ Scalar Di-Pion. Physical Review Letters, 1965, 14, 329-332.	2.9	85
77	Absorptive Processes and Single-Particle Exchange Models at High Energies. I. General Theory. Physical Review, 1965, 139, B646-B666.	2.7	113
78	Single-Particle Exchange Models for the Reactions $\bar{p}p \rightarrow p\bar{p}$, $p\bar{p} \rightarrow p\bar{p}$, and $n\bar{p} \rightarrow pn$. Physical Review, 1965, 137, B1530-B1534.	2.7	58
79	Interference Between the Decays $\theta^0 \rightarrow \pi^+\pi^-\pi^0$ and $\theta^0 \rightarrow \pi^+\pi^-\pi^+$ in the Reaction $\bar{p}n \rightarrow \bar{p}n$. Physical Review Letters, 1965, 14, 1039-1043.	2.9	6
80	Unitarity, Absorptive Processes, and Single-Particle Exchange Models at High Energies. Physical Review Letters, 1964, 12, 399-403.	2.9	94
81	Electron Screening Corrections to Beta-Decay Spectra. Physical Review, 1964, 135, B310-B313.	2.7	69
82	Spin Correlation Phenomena in the Reaction $N^{\Delta^-} + N \rightarrow \Delta^- + \gamma$. Physical Review, 1964, 135, B540-B550.	2.7	32
83	High-Energy Diffraction Scattering. Physical Review, 1963, 132, 1217-1225.	2.7	4
84	Electromagnetic Corrections to Weak Interactions. The Beta Decays of the Muon, Neutron, and O^{14} . Physical Review, 1963, 130, 1188-1209.	2.7	40
85	Pionic Contributions to the Magnetic Moment of the Muon. Physical Review, 1962, 128, 441-448.	2.7	82
86	Remarks on the Electromagnetic Interactions of Massless Particles. Physical Review, 1962, 128, 434-440.	2.7	14
87	Lorentz Invariance and the Kinematic Structure of Vertex Functions. Physical Review, 1962, 126, 1882-1898.	2.7	110
88	Inelastic Electron-Deuteron Scattering and the Electromagnetic Structure of the Neutron. Physical Review Letters, 1961, 6, 631-634.	2.9	20
89	Inelastic Electron-Deuteron Scattering Cross Sections at High Energies. II. Final-State Interactions and Relativistic Corrections. Physical Review, 1961, 123, 1393-1422.	2.7	107
90	Electromagnetic Corrections to the Decays of the Muon, O^{14} , and the Neutron. Physical Review Letters, 1960, 4, 620-624.	2.9	29

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91	Inelastic Electron-Deuteron Scattering Cross Sections at High Energies. Physical Review, 1959, 115, 1020-1038.	2.7	72
92	Effects of Vacuum Polarization Scattering in the Treatment of Proton-Proton Scattering Data. Physical Review, 1958, 111, 1597-1603.	2.7	10
93	Tests for the Spin in the Decay of Particles of Arbitrary Spin. Physical Review, 1958, 112, 273-282.	2.7	12
94	Vacuum Polarization Effects in Proton-Proton Scattering. Physical Review, 1957, 108, 1597-1610.	2.7	75
95	Boundary Value Treatment of Nucleon-Nucleon Phase Shifts. Physical Review, 1956, 104, 1102-1113.	2.7	15