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Publication list F. Jegerlehner

1. **“The anomalous magnetic moment of the muon in the Standard Model,”**
T. Aoyama, N. Asmussen, M. Benayoun, J. Bijnens, T. Blum, et al.
arXiv:2006.04822 [hep-ph]
2. **“ $\alpha_{QED,eff}(s)$ for precision physics at the FCC-ee/ILC,”**
arXiv:1905.05078 [hep-ph]
in **“Theory for the FCC-ee,”**
CERN Yellow Reports: Monographs **3** (2020), 9-37
Eds. A. Blondel, J. Gluza, S. Jadach, P. Janot, T. Riemann, et al.
3. **“BHLS₂, a New Breaking of the HLS Model and its Phenomenology,”**
with M. Benayoun, L. Delbuono
arXiv:1903.11034 [hep-ph]
Eur. Phys. J. C **80** (2020) no.2, 81
4. **“The Hierarchy Problem and the Cosmological Constant Problem Revisited - A new view on the SM of particle physics,”**
arXiv:1812.03863 [hep-ph]
Found. Phys. **49** (2019) no.9, 915-971
5. **“The role of mesons in muon $g - 2$,”**
arXiv:1809.07413 [hep-ph]
EPJ Web Conf. **199** (2019), 01010
6. **“The Muon $g-2$ in Progress,”**
arXiv:1804.07409 [hep-ph]
Acta Phys. Polon. B **49** (2018), 1157
7. **“Variations on Photon Vacuum Polarization”**
[arXiv:1711.06089 [hep-ph]].
EPJ Web Conf. **218** (2019), 01003
8. **“The Anomalous Magnetic Moment of the Muon”**
Springer Tracts Mod. Phys. **274**, pp.1 (2017).
9. **“Muon $g - 2$ theory: The hadronic part”**
arXiv:1705.00263 [hep-ph]
EPJ Web Conf. **166**, 00022 (2018)

10. **“Physics Behind Precision”**
P. Azzi *et al.*.
arXiv:1703.01626 [hep-ph]
11. **“Photon radiation in $e^+e^- \rightarrow$ hadrons at low energies with CARLOMAT 3.1”**
with K. Kołodziej.
arXiv:1701.01837 [hep-ph]
Eur. Phys. J. C **77**, no. 4, 254 (2017)
12. **“Measurement of the running of the fine structure constant below 1 GeV with the KLOE Detector”**
A. Anastasi *et al.* [KLOE-2 Collaboration].
arXiv:1609.06631 [hep-ex]
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13. **“A BHLS model based moment analysis of muon $g-2$, and its use for lattice QCD evaluations of a_μ^{had} ”**
with M. Benayoun, P. David, L. DelBuono.
arXiv:1605.04474 [hep-ph]
14. **“Leading-order hadronic contribution to electron and muon $g - 2$ ”**
arXiv:1511.04473 [hep-ph]
EPJ Web Conf. **118**, 01016 (2016)
15. **“Muon $g - 2$ estimates: can one trust effective Lagrangians and global fits?”**
with M. Benayoun, P. David, L. DelBuono.
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Eur. Phys. J. C **75**, no. 12, 613 (2015)
16. **“The hierarchy problem and the cosmological constant problem in the Standard Model”**
arXiv:1503.00809 [hep-ph]
17. **“Self-consistence of the Standard Model via the renormalization group analysis”**
with M. Y. Kalmykov and B. A. Kniehl.
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J. Phys. Conf. Ser. **608**, no. 1, 012074 (2015)
18. **“Hadronic contributions to the muon anomalous magnetic moment Workshop. $(g - 2)_\mu$: Quo vadis? Workshop. Mini proceedings”**
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19. **“What is triggering the Higgs mechanism and inflation?”**
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 20. **“About the role of the Higgs boson in the evolution of the early universe”**
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 21. **“IRIDE: Interdisciplinary research infrastructure based on dual electron linacs and lasers”**
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 23. **“Application of Chiral Resonance Lagrangian Theories to the Muon $g - 2$ ”**
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 24. **“Vector correlator and scale determination in lattice QCD”**
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 25. **“Project of a Super Charm-Tau factory at the Budker Institute of Nuclear Physics in Novosibirsk”**
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 26. **“IRIDE White Book, An Interdisciplinary Research Infrastructure based on Dual Electron linacs&lasers”**
D. Alesini *et al.*
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 27. **“About the EW contribution to the relation between pole and MS-masses of the top-quark in the Standard Model”**
with M. Y. Kalmykov and B. A. Kniehl.
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 28. **“The hierarchy problem of the electroweak Standard Model revisited”**
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29. **“The Standard model as a low-energy effective theory: what is triggering the Higgs mechanism?”**
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30. **“On the difference between the pole and the \overline{MS} masses of the top quark at the electroweak scale”**
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31. **“An Update of the HLS Estimate of the Muon $g-2$ ”**
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32. **“Implications of low and high energy measurements on SUSY models”**
arXiv:1203.0806 [hep-ph]
Frascati Phys. Ser. **54**, 42 (2012)
33. **“Comment on $H \rightarrow \gamma\gamma$ and the Role of the Decoupling theorem and the Equivalence Theorem”**
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34. **“Electroweak effective couplings for future precision experiments”**
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35. **“Upgraded Breaking Of The HLS Model: A Full Solution to the $\tau^-e^+e^-$ and ϕ Decay Issues And Its Consequences On $g-2$ VMD Estimates”**
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37. **“Rho-gamma mixing and e^+e^- vs. τ spectral functions”**
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38. **“Physics with the KLOE-2 experiment at the upgraded DAΦNE”**
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39. **“Quest for precision in hadronic cross sections at low energy: Monte Carlo tools vs. experimental data”**
S. Actis *et al.* [Working Group on Radiative Corrections and Monte Carlo Generators for Low Energies].
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40. **“Progress in the prediction of $g-2$ of the muon”**
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41. **“The Muon $g-2$ ”**
with A. Nyffeler.
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42. **“The Running fine structure constant $\alpha(E)$ via the Adler function”**
arXiv:0807.4206 [hep-ph]
Nucl. Phys. Proc. Suppl. **181-182**, 135 (2008)
43. **“The anomalous magnetic moment of the muon”**
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44. **“Muon $g - 2$ update”**
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45. **“The muon $g-2$: Status and perspectives”**
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46. **“Essentials of the Muon $g-2$ ”**
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47. **“Precision measurements of σ_{hadronic} for $\alpha_{\text{eff}}(E)$ at ILC energies and $(g - 2)_\mu$ ”**
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48. **“Explicit results for the anomalous three point function and non-renormalization theorems”**
with O. V. Tarasov
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49. **“One-loop electroweak factorizable corrections for the Higgsstrahlung at a linear collider”**

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50. **“Isospin violating effects in e^+e^- vs. τ measurements of the pion form factor $|F_\pi|^2(s)$ ”**
with S. Ghozzi
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51. **“The $O(\alpha_s)$ correction to the pole mass of the t -quark within the standard model”**
with M. Y. Kalmykov
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52. **“ $ee4f\gamma$: A program for $e^+e^- \rightarrow 4f, 4f\gamma$ with nonzero fermion masses”**
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with J. Fleischer and O. V. Tarasov
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54. **“Measuring the FSR-inclusive $\pi^+\pi^-$ cross section”**
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55. **“ $\overline{\text{MS}}$ vs pole masses of gauge bosons. II: Two-loop electroweak fermion corrections”**
with M. Y. Kalmykov and O. Veretin
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57. **“Pion pair production with higher order radiative corrections in low energy e^+e^- collisions”**
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with M. Y. Kalmykov and O. Veretin
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59. **“Hadronic contributions to the photon vacuum polarization and their role in precision physics”**
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60. **“Fermion mass effects in $e^+e^- \rightarrow 4f$ and $e^+e^- \rightarrow 4f\gamma$ with cuts”**
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61. **“Facts of life with γ_5 ”**
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63. **“Algebraic reduction of one-loop Feynman graph amplitudes”**
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64. **“The hard bremsstrahlung correction to $e^+e^- \rightarrow 4f$ with finite fermion masses: Results for $e^+e^- \rightarrow u\bar{d}\mu^-\bar{\nu}/mu$ ”**
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67. **“The deconfinement phase transition in one-flavor QCD”**
with C. Alexandrou, A. Borici, A. Feo, P. de Forcrand, A. Galli and T. Takaishi
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68. **“Exact mass dependent two-loop $\bar{\alpha}_s - (Q^2)$ in the background MOM renormalization scheme”**
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 74. **“Two loop large top mass corrections to electroweak parameters: Analytic results valid for arbitrary Higgs mass”**
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80. **“Two loop heavy top corrections to the rho parameter: A Simple formula valid for arbitrary Higgs mass”**
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81. **“Production of Two Hard Isolated Photons in $e^+e^- \rightarrow \mu^+\mu^-\gamma\gamma$ at LEP”**
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with M. Consoli and W. Hollik
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92. **“Radiative Corrections to Helicity Amplitudes for W Pair Production in e^+e^- Annihilation”**
with J. Fleischer and M. Zralek
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93. **“Vector Boson Parameters: Scheme Dependence and Theoretical Uncertainties”**
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95. **“High-Energy Behavior Of The Electromagnetic Singlet Current In The Glashow-Weinberg-Salam Model”**
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99. **“Testing Heavy Fermions in Higgs Production by $e^+e^- \rightarrow ZH$ ”**
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110. **“Non-renormalization of the full correlator at two-loop order”**
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111. **“Extended joint ECFA/DESY study on physics and detector for a linear e^+e^- collider. Proceedings, Summer Colloquium, Amsterdam, Netherlands, April 4, 2003”**
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115. **“The role of $\sigma(e^+e^- \rightarrow \text{hadrons})$ in precision tests of the stan-**

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117. **“Theoretical precision in estimates of the hadronic contributions to $(g - 2)_\mu$ and $\alpha_{\text{QED}}(M_Z)$ ”**
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118. **“Hadronic vacuum polarization effects in $\alpha_{\text{em}}(M_Z)$ ”**
arXiv:hep-ph/0308117, DESY-03-106(2003)
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119. **“A model-independent treatment of FSR in low energy σ_{had} measurements”**
with A. Hofer, S. Jadach, and J. Gluza
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120. **“Application of quantum field theory to phenomenology. Loops and legs in quantum field theory. Proceedings, 6th International Symposium, RADCOR 2002, and 6th Zeuthen Workshop, Staffelstein, Germany, September 8-13, 2002”**
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121. **“Pole masses of gauge bosons: 2 loop electroweak corrections”**
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