Publications of Paul Lecoq

1659 publications, 220 as sole or main author, 127291citations (google scholar)

h-index 69 (excluding self citations): Research Gate

h-index 165: Google scholar

Full list available at:

https://www.researchgate.net/profile/Paul_Lecoq

http://cds.cern.ch/search?ln=en&p=Lecoq

Most relevant 12 publications:

1. **How the sensitivity of TOF-PET depends on the interplay between the temporal and spatial detector resolutions and the resolution required for the imaging task,** J. Nuyts, M. Defrise, C. Morel, P. Lecoq, *Physics in Medicine & Biology, Volume 70, Number 24* ***Citation*** *Johan Nuyts et al 2025 Phys. Med. Biol.* ***70*** *245001* ***DOI*** *10.1088/1361-6560/ae241a*
2. **On the way to the 10ps Time-of-Flight PET challenge,** P. Lecoq
   EPJ Plus (Covid workshop, 2021) Eur. Phys. J. Plus (2022) 137:964
   https://doi.org/10.1140/epjp/s13360-022-03159-8
3. **Pushing the limits in Time-of-Flight PET imaging,** P. Lecoq
   14 pages Review paper submitted to IEEE Transactions on Radiation and Plasma Medical Sciences on the 20th of June, 2017
4. **Development of new scintillators for medical application**, P. Lecoq
   Nuclear Instruments and Methods A809, Feb. 2016, pp 130-139
   doi: 10.1016/j.nima.2015.08.041
5. **New detecting techniques for a future calorimetry,** E. Auffray, O. Buganov, A.Fedorov, M. Korjik, P. Lecoq, G.Tamulaitis, S.Tikhomirov, A.Vasil'ev
   16th International Conference on Calorimetry in High Energy Physics (CALOR 2014) IOP Publishing Journal of Physics: Conference Series 587 (2015) 012056 doi:10.1088/1742-

6596/587/1/012056

6. **Review on photonic crystal coatings for scintillators,** A. Knapitsch, P. Lecoq, *International Journal of Modern Physics A, Vol. 29 (2014) 1430070 (31 pages) doi: 10.1142/S0217751X14300701*

7. **Time of flight positron emission tomography towards 100ps resolution with L(Y)SO: an experimental and theoretical analysis,** S. Gundacker;_ E. Auffray, B. Frisch, P. Jarron, A. Knapitsch, T. Meyer, M. Pizzichemi and P. Lecoq *2013 JINST 8 P07014 doi:10.1088/1748-0221/8/07/P07014*

8. **A Systematic Study to Optimize SiPM Photo-Detectors for Highest Time Resolution in PET,** S. Gundacker, E. Auffray, B. Frisch, H. Hillemanns, P. Jarron, T. Meyer, K. Pauwels, P. Lecoq, P. *IEEE Trans. Nucl. Sci.* 59 (2012) 1798-1804

9. **New approaches to improve timing resolution in scintillators,** P. Lecoq, *IEEE Trans. Nucl. Sci._Volume: 59s, Issue: 5 , Part2, 2012 , pp. 2313 - 2318*

10. **Photonic crystals: A novel approach to enhance the light output of scintillation based detectors**, A. Knapitsch, P. Lecoq, J.L. Leclerq, X. Letartre, E. Auffray, C. Fabjan, *NIM A* 628 (2011) 385-388

11. **New crystal technologies for novel calorimeter concepts,** P. Lecoq, *J. Phys.: Conf. Ser. 160 (2009) 012016*

12. **New inorganic scintillation materials development for medical imaging,** P. Lecoq, M. Korzhik, *IEEE Trans. Nucl. Sci. 49 (2002) 1651-4*

Additional information:

Invited talks

1. **The 10ps Time-of-Flight PET challenge : Myth or Reality ?** / Lecoq, P (CERN)- Opening talk at SCINT2017, 14th International Conference on Inorganic Scintillators and their Applications, Chamonix, France, 18 September 2017, 250 attendees
2. **Towards 10ps timing resolution with a scintillator-based particle detector**/ Lecoq, P (CERN)- Spectral X-Ray workshop, CERN, 15 May 2017, 450 attendees
3. **The 10ps Time-of-Flight PET challenge** / Lecoq, P (CERN)- Stanford, USA, 16 August 2017
4. **The 10ps Time-of-Flight PET challenge** / Lecoq, P (CERN)- Stanford, USA, 16 August 2017
5. **Advanced scintillators for fast timing applications**/ Lecoq, P (CERN)- Vladimir Dvorak lecture of the Czech Academy of Sciences, Prague, Czech Republik, 3 June 2017
6. **Is the quest for 10ps timing resolution ofr scintillator-based detectors realistic ?**/

Lecoq, P (CERN)- Naval Reserach Laboratory, Washington, USA, 6 March 2017

7. **Fast timing with scintillators. : towards 10ps timing resolution ?**/ Lecoq, P (CERN)- Los Alamos, USA, 13 September 2016
8. **PET molecular imaging perspectives for teranostics and personalized medicine**/ Lecoq, P (CERN)- Swiss experimental surgery symposium, Geneva, Switzerland, 16 January 2016
9. **Will SiPM replace Vacuum tubes ?** / Lecoq, P (CERN)- Opening talk at IEEE NSS/MIC conference, San Diego, USA, 2 November 2015, 2200 attendees
10. **Fast timing with scintillators** / Lecoq, P (CERN)- Opening talk at SCINT2015, 13th International Conference on Inorganic Scintillators and their Applications, Berkeley, USA, 8 June 2015, 250 attendees
11. **Fast timing with scintillators /** Lecoq, P (CERN)- Invited talk at the Belaruss Academy of Sciences, Minsk, Belaruss, 16th October, 2013
12. **Towards ultrafast scintillators** / Lecoq, P (CERN)- Opening talk at SCINT2013, 12th International Conference on Inorganic Scintillators and their Applications, Shanghai, China, 15 April, 2013, 220 attendees
13. **Čerenkov Radiation in Medical Imaging**, Opening talk at the Thematic Workshop on Advanced Molecular Brain Imaging, Taormina, Italy, Sept 2012, 150 attendees
14. **New approaches to improve timing resolution in scintillators**, Opening talk at SCINT2011, 10th International Conference on Inorganic Scintillators, Giessen, Germany, Published in : *IEEE Trans. Nucl. Sci.* 59, Vol. 5, Oct 2012, pp 2013-2019, 250 attendees
15. **Molecular Imaging Challenges With PET** / Lecoq, P (CERN)- Opening talk at SCINT2009, 10th International Conference on Inorganic Scintillators and their Applications, Jeju Island, Korea, 8 june 2009, Published in : *IEEE Trans. Nucl. Sci.* 57 (2010) 1485-1491
16. **Development of Scintillating Crystals for High Energy Physics, Medical Imaging and other applications,** NMDT-NGPC conference, New Materials Design Technology for the Next Generation of Performed Components, Algiers, May 2009
17. **Spin-off from particle detectors in the field of medicine and biology** / Lecoq, P (CERN) 2007 – **Opening talk** at the 11th Vienna conference on instrumentation – 19-24 Feb, 2007Published in: *Nucl. Instrum. Methods Phys. Res., A* 581 (2007) 1-11
18. **The CMS calorimeter in 2007:pPerformance and physics goals** / Lecoq, P (CERN) 2007 – **Opening talk** at the SCINT07 9th International Conference on Inorganic Scintillators and their Applications, 04-08 June 2007, Winston Salem, NC, USA
19. **De la physique a l'imagerie medicale** 2006. - Streaming video ; 1 DVD video. CERN Globe Talk 12 Oct 2006 - CERN library copies
20. **New trends in PET detector developments,** SCINT05 8th International Conference on Inorganic Scintillators and their Applications& NATO Advanced Research Workshop, 19-23 Sept 2005, Alushta, Crimea
21. **Ten years of lead tungstate development** / Lecoq, P Geneva : CERN, 2005 – SCINT03

7th International Conference on Inorganic Scintillators and their Applications, Valencia, Spain, Oct 2003, Published in: *Nucl. Instrum. Methods Phys. Res., A* 537 (2005) 15-21

22. **Organization of the production of 100 tons of Lead Tungstate crystals for the CMS experiment at CERN** / Lecoq. P., ISLNOM-3, Keystone, Colorado, 22 July 2003, - Published in: *Opt. Mater.* 26 (2004) 523-528
23. **New scintillating crystals for PET scanners** / Lecoq, P, 10th International Conference on Calorimetry in High Energy Physics, Pasadena, CA, USA, 25 Mar 2002, pp.262-73
24. **Clear-PEM, a dedicated PET camera for mammography** / Lecoq, P; Varela, J , **Opening talk** at the SCINT2001 6th International Conference on Inorganic Scintillators and their Applications, Chamonix, Sept 2001, - Published in: *Nucl. Instrum. Methods Phys. Res., A* 486 (2002) 1-6
25. **How high energy physics is driving the development of new scintillators** / Lecoq, P Geneva : SCINT99 5th International Conference on Inorganic Scintillators and their Applications, Moscow, Russia, 16 - 20 Aug 1999, pp.3-10
26. **New scintillating crystals for medical imaging** / Lecoq, P, 8th International Conference on Calorimetry in High Energy Physics, Lisbon, Portugal, 13 - 19 Jun 1999, pp.667-674
27. **Review of progress on lead tungstate crystals for the CMS electromagnetic calorimeter /** Lecoq, P, 7th International Conference on Calorimetry in High-energy Physics, Tucson, AZ, USA, 9 - 14 Nov 1997, pp.109-117
28. **The challenge of new scintillator development for high-energy physics /** Lecoq, P , SCINT97 4th International Conference on Inorganic Scintillators and Their Applications, Shanghai, China, 22 - 25 Sep 1997, pp.13-27
29. **Progress on scintillator research by the Crystal Clear collaboration** / Lecoq, P , Symposium on Scintillator and Phosphor Materials, San Francisco, CA, USA, 4 - 8 Apr 1994, pp.51-64
30. **The high energy physics demand for a new generation of scintillators** / Lecoq, P , International Conference on Luminescence, Storrs, CT, USA, 9 - 13 Aug 1993, pp.948-955
31. **The quest for new scintillators** / Lecoq, P , 4th International Conference on Calorimetry in High-energy Physics, La Biodola, Isola d'Elba, Italy, 19 - 25 Sep 1993, pp.23-40
32. **Holography in small bubble chambers** / Lecoq, P 1984. – Erice school of Physics (Sicilia) Published in: Ettore Majorana Int. Sci. Ser., Phys. Sci.: 16 (1984) pp. 183-195
33. **Streamer chamber holography** / Lecoq, P 1981, Meeting on the Application of Holographic Techniques to Bubble Chamber Physics, Chilton, UK, 19-20 Jan 1981, pp.215-220