

Conclusions of the

INTENSITY

frontier

GDR-InF

Annual Workshop 2021

LPNHE Paris

15-17 November 2021

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<http://gdrintensityfrontier.in2p3.fr/>



Hope you enjoyed the workshop!



- We were very happy to see many newcomers at this meeting, and to meet again colleagues and friends that we have not seen for a long time.
- Thanks to the speakers for their nice talks.
We should have a better overview of what is going on in France, both on the theory and experimental side...and it's a lot: the intensity frontier has been growing and is lively!
- We are actively playing a role in a very exciting field, with intriguing deviations to understand, many open questions!
- Thanks also for their support to:

*Federation de Recherche
Interactions Fondamentales
de Sorbonne Université*



More events are coming!



- FLAVIO hands-on kick off this afternoon
- RapidSim hands-on project in preparation
- Detector lectures next week
- ...and five years more!

Subscribe to the mailing list to be advertised:

- <https://listserv.in2p3.fr/cgi-bin/wa?A0=GDR-INTENSITYFRONTIER-L>

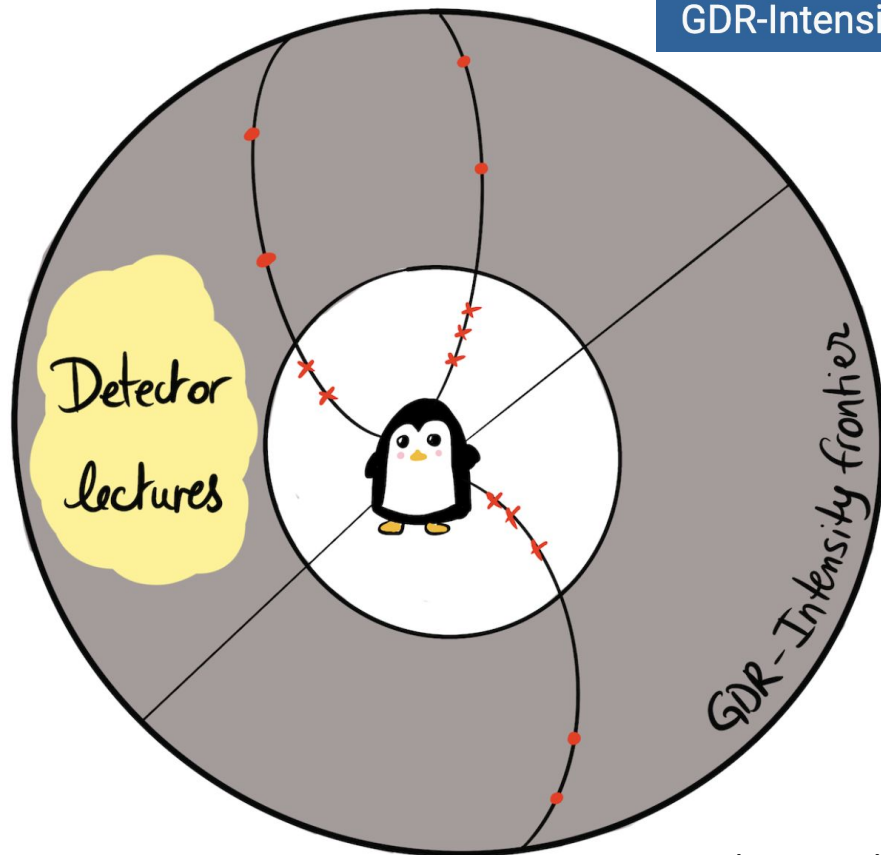
Lectures next week!

GDR-Intensity Frontier lectures: tracking detectors and algorithms

<https://indico.in2p3.fr/event/25006/>

Two excellent and experienced lecturers:

Jerome Baudot and **Pierre Billoir**



LUNDI 22 NOVEMBRE		
10:00 → 12:00	Tracking detectors: Lecture 1	🕒 2h 📄
During the first lecture, we will start to discuss the physical processes driving the figures of merit for tracking & vertexing systems. By studying some multi-detector implementations, we will introduce the main technologies used so far. Such examples will also lead us to understand how experimental conditions constrain tracker design choices. Orateur: Jerome Baudot (IPHC)		
MERCREDI 24 NOVEMBRE		
10:00 → 12:00	Tracking detectors: Lecture 2	🕒 2h 📄
In the second lecture, we will follow a more systematic approach, reviewing the current trend of developments for a selection of individual detector technologies. This panorama will allow us to conclude on the next, possibly next-to-next, level of performance reachable by future tracking systems. Orateur: Jerome Baudot (IPHC)		
VENDREDI 26 NOVEMBRE		
10:00 → 12:00	Tracking algorithms	🕒 2h 📄
During the last lecture we will focus on how to best exploit the information from the measurements to estimate the physical parameters we are interested in, for example the momentum of a charged particle. We will discuss how a trade off between different constraints must be found, for example obtaining an algorithm that provides enough precision and that takes an acceptable time to run. Orateur: Pierre Billoir (LPNHE)		

Past lectures have been often recorded. Links are on the GDR website!

GDR-InF : 5 intense years have passed!



A Events organised by the GDR-InF 2017-2021

Annual Meetings

- GDR-InF Kickoff meeting: current trends in flavour physics, Paris, 29-31 March 2017
- GDR-InF Annual Workshop, Arles, 5-7 November 2018
- GDR-InF Annual Workshop, Sommières, 4-7 November 2019
- GDR-InF Annual Workshop, online, 28 September-16 October 2020
- GDR-InF Annual Workshop, TBD, Autumn 2021

GDR-InF Lectures: from theory to experiments and everything in between

- LF(U)V in B decays, by Martino Borsato and Diego Guadagnoli, Paris, 26-27 October 2017
- LF(U)V in B decays-II, by Lucia Grillo and Diego Guadagnoli, Paris, 13-14 February 2018
- V_{cb} , by Giulia Ricciardi and Marcello Rotondo, Paris, 2-3 July 2018
- γ and Dalitz plot analyses, by Anton Poluektov and Karim Trabelsi, Paris, 28-29 May 2019
- V_{ub} , by Aoife Bharucha and Patrick Owen, Paris, 30 September-1 October 2019
- Effective Field Theories Part I, 21 September-1 October 2020, online
- Effective Field Theories Part II, 31 May-11 June 2021, online

Topical Workshops

- Workshop on the Strong CP puzzle and Axions, LPSC (Grenoble), 14-16 May 2018
- Workshop on multibody charmless B-hadron decays, LPNHE (Paris), 6-7 June 2018
- Workshop on singly and doubly charmed baryons, LPNHE (Paris), 26-27 June 2018
- Workshop on obtaining the photon polarization via $B \rightarrow K\pi\pi\gamma$, IPHC Strasbourg, 10-11 April 2019
- Workshop on QED corrections to (semi-)leptonic B decays, Paris, 8-9 July 2019
- b-baryon fest, online, 5-6 November, 2020
- Polarisation measurements in ee ep, pp and heavy-ions collisions , IJCLab, 14-18 December 2020
- Virtual breakfast with g-2 , IJCLab, 19 May 2021

Brainstorming Workshops

- GDR-InF workshop: The future of the intensity frontier, CERN, 1-2 February 2017

Supported Workshops and Schools

- Rencontres de Physique des Particules, CPPM (Marseille), 24-26 April 2017
- Journée SHiP/Physique du secteur caché, LPNHE (Paris), 11 October 2017
- The 2nd LHCb open semitaucic workshop, LAL (Orsay), 13-15 November 2017
- École de Gif on Heavy Flavour physics, Clermont Ferrand, 10-14 September 2018
- 7th $b \rightarrow s\ell\ell$ workshop, Lyon, 4- 6 September 2019
- nEDM2021 Workshop , online, 14-19 February 2021

But also documents, discussions, hands-on projects, a photo exhibition, a twitter account and an instagram account



<http://gdrintensityfrontier.in2p3.fr/ExpoPhoto/>

Find all links on our website:

<http://gdrintensityfrontier.in2p3.fr/>

A warm thank you!



- **To all the convenors** of these five years for the work done together:

Ana Teixeira, Benjamin Audurier, Carla Marin-Benito, Christopher Smith, Diego Guadagnoli, Dorothea Vom Bruch, Emi Kou, Giulio Dujany, Jean-Francois Marchand, Justine Serrano, Mark Goodsell, Matthew John Charles, Michael Winn, Peter Stangl, Stephane Monteil, Stephanie Roccia, Yasmine Amhis

Through their ideas and contributing to the organization, they strongly helped in having interesting events.

- **To the conseil the groupement** for trusting and supporting us:

Olivier Leroy (CPPM), Olivier Deschamps (LPC), Nazila Mahmoudi (IPNL), Stephane Lavignac (IPhT, CEA), Isabelle Ripp-Baudot (IPHC), Stephane T'Jampens (LAPP), Diego Guadagnoli (LAPTh), Christopher Smith (LPSC), Mark Goodsell (LPTHE), Jérôme Charles (CPT), Marie-Helene Schune, Sebastien Descotes-Genon (IJCLab)

- **To IN2P3 and INP** who encouraged, funded and keep supporting the initiative.
- **The involvement in the GDR-InF of everyone is essential for its success!**



- It was a very enriching experience to coordinate the GDR-InF during these five years.
- We learned how much our community is active, lively, and with potential to even improve.
- We were impressed by the enthusiasm of all students and postdocs in many initiatives.
- We had great scientific exchanges with colleagues, the pleasure to work together and establish friendships.
- We are grateful for having being strongly supported by you all.
- ...and we are happy to leave the coordination of the GDR-InF in the very good hands of Diego and Giulio!

Aoife and Francesco



(+ many others missing here....)

**We are
the
INTENSITY**
frontier

