

# SDHCAL activities dashboard

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# Hope you're doing well

## Coronavirus outbreak

- China : Going better.
- Korea : Going better.
- Europe (Belgium, France, Spain) : Going better, universities (about to) progressively reopen.

# Ongoing activities

## Test beam analysis

### all TB

- Uniformity (Bing+SJTU)
- Low Energy hadrons (Bing+SJTU)
- Uses of BDT (Bing+SJTU)

### 09/2018 only

- SiWECAL+SDHCAL (Hector+CIEMAT : (done ?))
- Tricot electronics (GG, Imad (?) on hold (?))

### 2015 only

- Analysis with rotated device (**Hector**)

# Ongoing activities

## PFA

- ArborPFA → APRIL (Bo, → GG )
- Rand Index (GG)
- PFA with timing (Imad starting)

## Digitisation

Incorporate GRPC response modeling to digitiser, (Clermont+Lyon).

## ILD/CEPC Analysis

- CIEMAT
- $e^+e^- \rightarrow \gamma\gamma VV$  (Bing)

## Hardware

- 2m<sup>2</sup> GRPC+HR3 ASU+ new DIF (Lyon+ CIEMAT )
- Timing electronics (CMS muon)
- Cooling for CEPC (SJTU)
- SJTU lab (SJTU)

## Simulation

- ILD SDHCAL simulation/reconstruction performance monitoring (Camilo, CIEMAT)
- Tricot simulation (on hold)
- Timing in simulation (on hold)

# AIDA++ $\Rightarrow$ Aidanova status

## AIDA 2020 Expression of Interest

- EOI #145 PFA (ARTIC) : Included in software WP (50 k€).
- EOI #58 Timing SDHCAL and EOI #57 Tricot electronics : merged and included in WP gaseous detectors  $\Rightarrow$  Aidanova : reduced financing (50 k€, Mary Cruz representative)

## SDHCAL removed from high granularity calorimeter WP

AIDA++ 2<sup>nd</sup> Open meeting at CERN, 09/23,

<https://indico.cern.ch/event/838461/>

# Publications

## Papers, short term

- Transformation of BDT note CALICE-CAN-2019-001 <https://inspirehep.net/record/1718039> into a paper, **submitted to JINST**. <https://arxiv.org/abs/2004.02972>
- An other paper from SJTU : JINST 14 (2019) no.10, P10034 <http://inspirehep.net/record/1762795>.
- Current analysis of test beam data (GRPC uniformity, low energy hadrons, ...) ?
- CHEF 2019 proceedings : <https://arxiv.org/abs/2002.09678>

## Notes in preparation

- Bo : APRIL PFA (on hold, **Bo got a position in a chinese university**)
- Bing : Low energy hadrons + uniformity studies

## Papers, medium term

- More on GRPC response modeling by Clermont ?

# Coming meetings

## Recent workshops

- Spring 2020 CALICE meeting, March 4-6, McGill  
<https://agenda.linearcollider.org/event/8343/overview> Very little SDHCAL presence (2 persons)  
One talk by Mary-Cruz

## Coming workshops

- 3rd CEPC Workshop EU Edition, May 4-7, Marseille, **POSTPONED to spring 2021** <https://indico.in2p3.fr/event/20053/>
- FCC France, May 14-15, By video,  
<https://indico.in2p3.fr/event/20792/>
- CALICE analysis meeting, one day in May 18-20

# Coming conferences

## Abstract closed

- ICHEP 2020 July 30 - August 5, Prague <http://ichep2020.org/>, 1 CALICE talk

## Open to abstract

- CALOR2020 → CALOR2021, May 17-21 2021, Sussex, UK, <https://indico.cern.ch/event/847884/> (abstract 12/7/20 to 03/26/21)
- TIPP 2020, May 24-29, British Columbia, Canada, **CANCELED** <https://indico.cern.ch/event/864722/> (abstract up to 04/24/20)
- PANIC 2020, August 31 - September 4, Lisbon, Portugal, <https://indico.lip.pt/event/592/> (abstract up to ~~04~~ 05/15/20)



# More specialized meetings

## Electronics

- Pico-second timing detectors, July 1-3, Zurich, Switzerland, <https://indico.cern.ch/event/861104/>, abstract up to 06/01/2020

## Advanced software

- IML Machine Learning Workshop, June 2-5, CERN, **POSTPONED** <https://indico.cern.ch/event/852553/>
- ACAT 2020 (Advanced Computing and Analysis Techniques in Physics Research) September 8-12, Daejeon, South Korea, **POSTPONED** to end of 2021 <https://indico.cern.ch/event/855454/>, abstract up to 04/07/2020

# Request from CALICE

## News from autumn 2019 CALICE Meeting

- Message from Roman. Clean/update the CALICE twiki page.  
<https://twiki.cern.ch/twiki/bin/view/CALICE/SdHCal>

# ILD regular meetings

- Participation in ILD analysis and software meetings could/should increase.
- Plan an ILD meetings summary at each SDHCAL meeting ?
- Increase physics analysis for ILD/CEPC.

# Outlook

## Today

- Discussion on  $H \rightarrow \tau^+ \tau^-$  analysis.
- Discussion on next CALICE analysis meeting.

Don't hesitate to add any important activity, paper, or conference, I may have miss.

## Next meetings

Europe (summer) 9-11 / China 15-17 / Korea 16-18

- CALICE Analysis meeting week of May 18th
- May 28th
- June 11th

# Backup

## Past meetings

- LCWS2019, October 28 - November 1 2019, Sendai,  
<https://agenda.linearcollider.org/event/8217/> : one talk by Bo on APRIL PFA
- CEPC workshop, November 18-20, IHEP, Beijing,  
<https://indico.ihep.ac.cn/event/9960/>, a SDHCAL talk by Bing.
- CHEF2019, November 25-29, Kyushu,  
<https://indico.cern.ch/event/818783/> 3 talks (Bing, GG, Djamel)
  - PID with Boosted Decision Tree (Bing)
  - Digitizer (Djamel)
  - APRIL PFA (GG)
- RPC2020, February 10-14, Roma,  
<https://agenda.infn.it/event/19942/> **No abstract submitted**