

Aachen Group Portrait

I. Physikalisches Institut B, RWTH Aachen

October 7th 2021

Jahrestreffen der deutschen LHCb-Gruppen, Dortmund

I.PI

RWTH AACHEN
UNIVERSITY





Prof. Stefan Schael
Institute Head



Christoph Langenbruch
Emmy Noether research group



Thomas Kirn
Senior scientists



Valery Zhukov

Total personnel:

- 4 academics
- 2 post-docs
- 10 PhD students
- engineers & technicians

Hardware

- SciFi Tracker
- Mighty Tracker

Analysis

- Rare decay analyses ($b \rightarrow sll^{(\prime)}$ transitions)
 - Lepton flavour universality measurements
 - Branching fractions
 - Angular analyses
 - Searches for lepton flavour violating decays
- Search for Helium-3 ions in pp collisions

Other service tasks

- Inclusive dilepton trigger for Run3

Hardware activities: SciFi Team



Thomas Kirn
(Senior)



Andreas Zosgornik
(Technician, CERN)



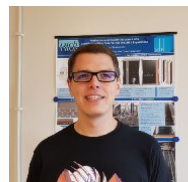
Valery Zhukov
(Senior, CERN)



Gediminas Sarpis
(Post-doc)



Andreas Güth
(Post-doc)



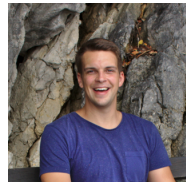
Simon Nieswand
(PhD)



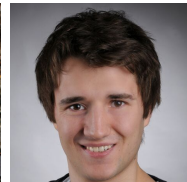
Jan-Marc Basels
(PhD)



Hendrik Jage
(PhD)



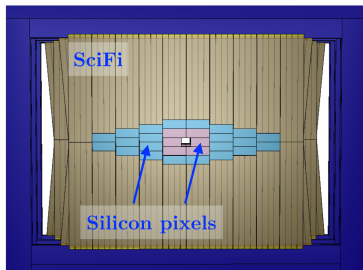
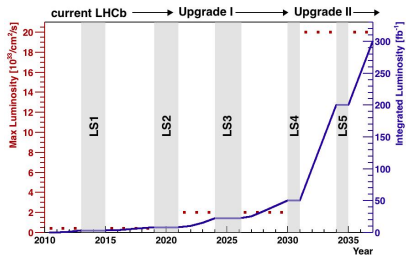
Johannes Heuel
(PhD)



Stephan Escher
(PhD)

Focus now shifted towards SciFi commissioning and reconstruction/simulation

Hardware activities: Mighty Tracker



Picture: F. Blanc, FCC Workshop, 12/11/2020



Thomas Kirn
(Senior)



Sebastian
Schmitt (PhD)



Thomas Oeser
(PhD)

New hardware effort in
Aachen, work just started

Lepton flavour universality measurements

Stephan Escher (PhD)



$$R(K^{*0}) + R(K)$$

Sebastian Schmitt (PhD)



$$R(\phi)$$

Johannes Heuel (PhD)



$$R(K\pi\pi)$$

Searches for lepton flavour violation

Jan-Marc Basels (PhD)



Andreas Güth (Post-doc)



Search for $B^0 \rightarrow K^{*0} \mu e$ and $B_s^0 \rightarrow \phi \mu e$

Talk by Jan-Marc later today

Angular analyses and branching fractions

Leon Carus
(PhD)



$B^0 \rightarrow K^{*0} \mu\mu$
angular analysis, full Run2

Thomas Oeser
(PhD)



Sophie Kretzschmar
(PhD)



$B_s^0 \rightarrow \phi \mu\mu$
 $B_s^0 \rightarrow f_2' \mu\mu$
branching fraction

[PRL 127 151801](#)
[published 10/05/21](#)

Marcel Materok
(PhD)



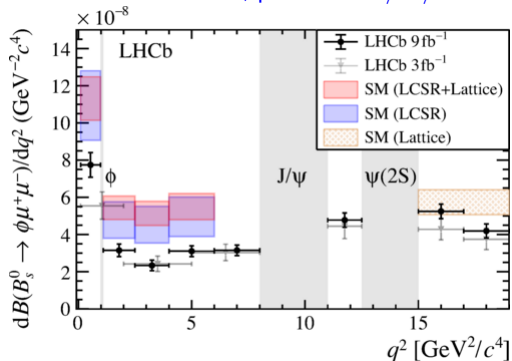
$B_s^0 \rightarrow \phi \mu\mu$
angular analysis,
full Run2

[arXiv:2107.13428](#)
[submitted to JHEP](#)

Angular analyses and branching fractions

Sophie Kretzschmar
(PhD)

PRL **127** 151801 , published 10/05/21



$B_s^0 \rightarrow \phi \mu \mu$
 $B_s^0 \rightarrow f_2' \mu \mu$
branching fraction

Search for Helium-3 ions in pp collisions

Gediminas Sarpis
(Post-doc)



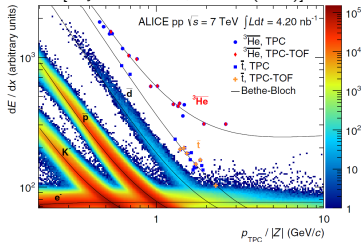
Hendrik Jage
(PhD)



Valery Zhukov
(Senior)



${}^3\text{He}$, ${}^3\overline{\text{He}}$ observed by ALICE in pp
[Phys. Rev. C 97, 024615 (2018)]



New analysis effort started last year

Talk by Hendrik tomorrow