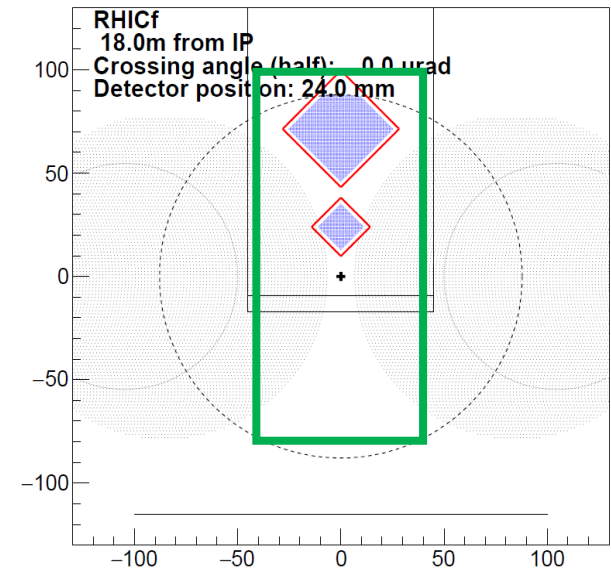


RHICf KAKENHI

- JFY2021 – 2024: direct cost budget
 - JFY2021: 9,500 kYen
 - Prototype development (Mask, Sensor, Tungsten, Electronics)
 - JFY2022: 10,800 kYen
 - Practical development & construction (Sensor, Tungsten, Electronics)
 - JFY2023: 7,500 kYen
 - Practical construction (Sensor, Tungsten, Electronics)
 - JFY2024: 4,400 kYen
- Research contents
 - Calorimeter development & construction
 - Goto, Nakagawa, Chujo, Menjo
 - Cooperation: Inaba, Kim, (Grenoble Univ.)
 - Experimental data analysis
 - Goto, Nakagawa, Tanida
 - Cooperation: Seidl, Kim, Itow, Sako, (Lee, Guryn, Ogawa)
 - Theoretical calculation
 - Goto, Mitsuka
 - (Experimental preparation)

RHICf-II proposal

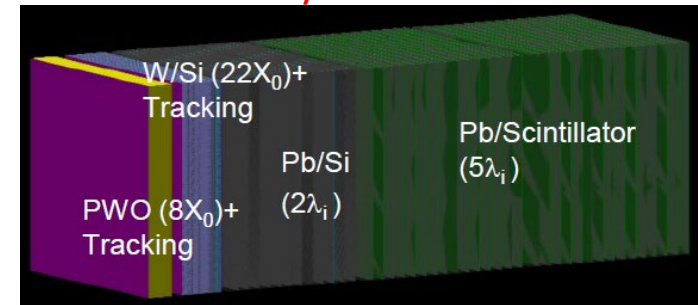
- We proposed a second run for RHICf in 2024 (RHICf-II)
- RHICf-II Lol was discussed by the PAC in 2020
- We're collaborating with ALICE-FoCal group to use the FoCal-E technology
 - 8cm x 18cm detector
 - Kakenhi-Kiban-A (2021-2024) + RIKEN budget
 - The detector have enough radiation hardness to work for a small β^* and normal luminosity
- Not accepted in 2022 mainly by human resource issue



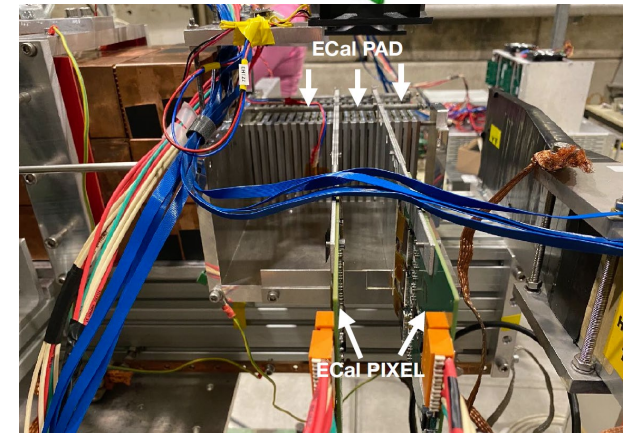
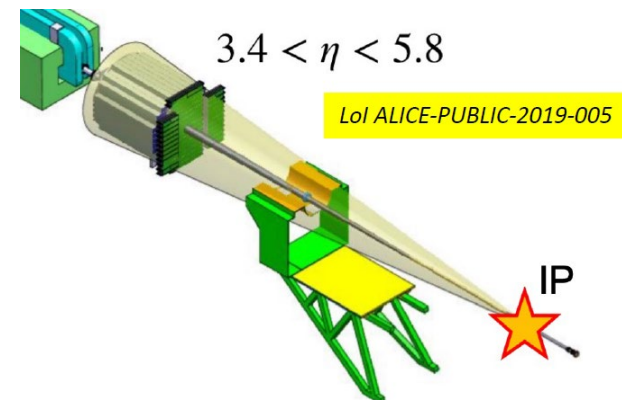
EPIC-ZDC development

- Soft photon detection
 - Crystal calorimeter (PWO, LYSO, ...) prototype
 - Readout device (APD, PMT, ...)
- EM+hadron calorimeter
 - ALICE-FoCal-E technology
 - Pad detector led by Univ. of Tsukuba group and Indian group
 - Pixel detector led by European group
 - Test beam activities ongoing
 - Pad detector at ELPH, Tohoku U.
 - Total system at CERN PS/SPS
 - EM calorimeter optimization
 - Sensor, readout (HGCROC), aggregator
 - Hadron calorimeter design (light collection, readout)

ECCE/EPIC ZDC

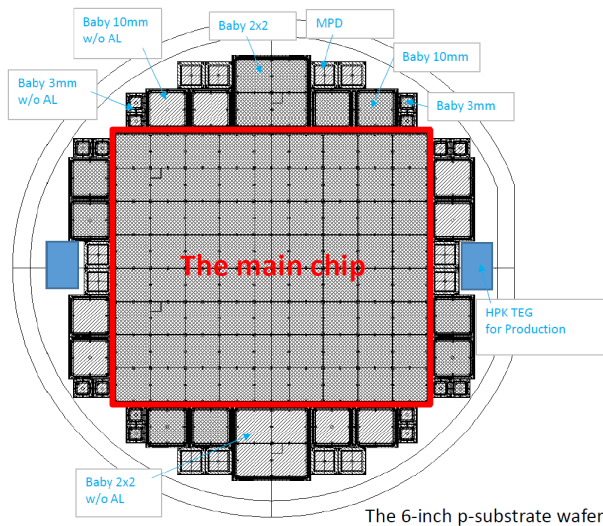


ALICE FoCal-E R&D

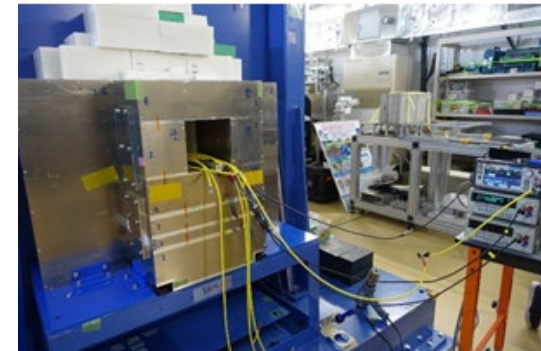
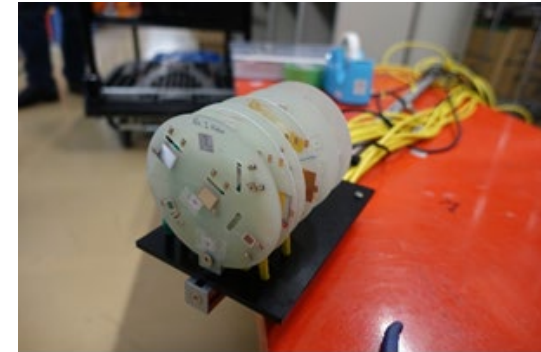
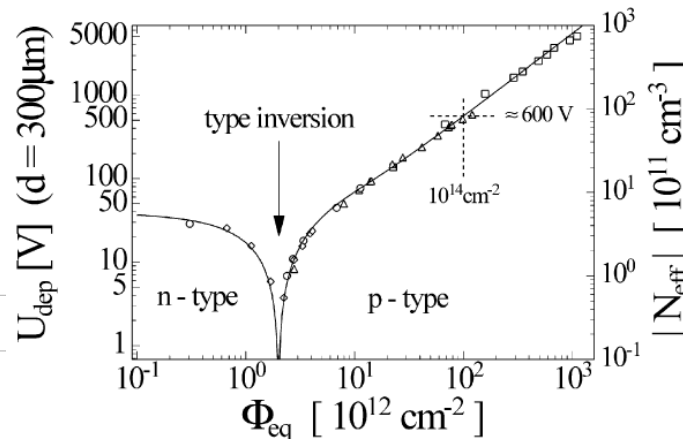


EPIC-ZDC development

- Measurement of the radiation hardness of the ALICE-FoCal-E Pad sensors
 - To determine if the sensor is sufficiently radiation hard to radiation dose/fluence at zero degree of EIC
- Options: p-type or n-type
 - Type inversion from n-type to p-type at 10^{12} neutron/cm²



November 21, 2022



Neutron irradiation
at RIKEN RANS

Discussion

- <https://indico2.riken.jp/event/4308/>
- Theoretical calculation (Mitsuka, 11:20-)
- Combined analysis (Kim, 13:30-)
 - Discussion, 14:15-
- KAKENHI discussion (Goto, Chujo, 15:15-)
 - JFY2022 budget execution
- RANS radiation tolerance test
 - 2023.1 ?
- ELPH test
 - 2023.2 ?
 - EPIC-ZDC crystal calorimeter
- AOB

Backup Slides

RHICf科研費

- 2021年度～2024年度、直接経費
 - 2021年度: 950万円
 - 試作機開発 (マスク、センサー、タングステン、エレキ)
 - 2022年度: 1080万円
 - 実機開発 (センサー、タングステン、エレキ)
 - 2023年度: 750万円
 - 実機開発 (センサー、タングステン、エレキ)
 - 2024年度: 440万円
- 研究内容
 - カロリメータの開発、建設
 - 後藤、中川、中條、毛受
 - 協力: 稲葉、Minho (、グルノーブル大)
 - 実験データ解析
 - 後藤、中川、谷田
 - 協力: Ralf、Minho、伊藤、さこ (、J.H. Lee、W. Guryn、小川)
 - 理論計算
 - 後藤、三塚
 - (実験準備)

議論

- 理論計算（三塚、11:20-）
- Combined Analysis（Minho、13:30-）
 - 議論、14:15-
- 科研費議論（後藤、中條、15:15-）
 - 2022年度予算執行
- RANS放射線耐性テスト
 - 2023.1?
- ELPHテスト
 - 2023.2?
 - EPIC-ZDCクリスタルカロリメータ
- その他？