James Philip Iddon

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Applied Physicist with over 7 years of experience in high-energy physics experiments and advanced detector technology. Proven track record in the research, development, construction, and commissioning of cutting-edge silicon pixel tracking detectors. Expertise in system testing, data acquisition software development, and detector operations.

Professional Experience

Senior Applied Fellow (Detector Operations)
CERN - Geneva, CH
Jul 2022 - present

- Coordinated operations for the ATLAS Pixel detector, ensuring maximum uptime and safety to support 24/7 LHC data acquisition.
- Developed and maintained data acquisition software (C++ / Python) with continuous integration testing, enhancing system responsiveness.
- Designed and implemented a software package to improve DAQ software flexibility, facilitating faster problem resolution by detector experts.
- Held key positions: Pixel Run Coordinator (Oct 2023 - Present), Pixel Deputy Run Coordinator (Apr 2023 - Oct 2023).

PhD in Physics
University of Liverpool / CERN
Oct 2017 - Jul 2022

- Construction, commissioning, and performance measurement of the ALICE Inner Tracking System Upgrade, the largest Monolithic Active Pixel Sensor (MAPS) tracking detector ever built.
- Achieved a 98% yield in constructing and testing novel CMOS MAPS detector modules and staves in clean rooms at the University of Liverpool and Daresbury Laboratory.
- Developed system testing software for the fully integrated tracking system at CERN, verifying the performance of 13 billion channels.
- Conducted the first measurement of detection efficiency using 5 million cosmic muon tracks, confirming system capabilities.
- Held positions: Visiting PhD Candidate at Daresbury Laboratory (Jan 2018 - Apr 2019), CERN Doctoral Student (Apr 2019 - Jul 2021).

Education

PhD in Physics
University of Liverpool / CERN
Oct 2017 - Jul 2022

- Title: Construction, Commissioning and Performance Measurements of the Inner Tracking System Upgrade of ALICE at the LHC.
- Defended in June 2022. Shortlisted for ALICE thesis award.

MPHYS Physics
University of Liverpool
Sep 2013 - Jul 2017

- Grade: First Class
- Masters project: ‘Inner Tracking System Upgrade of the ALICE Experiment at the LHC’, characterisation of silicon CMOS MAPS chips.

Skills

Key skills: Operations Coordination • Silicon Chip Characterization • Data Acquisition System Development • Software Development (C++, Python, Bash) • System Testing and Integration • Data Analysis and Visualization (Matplotlib, Plotly, Seaborn, Pandas, ROOT)
Platforms/Tools: Linux (Arch, Debian, Ubuntu) • Git • LaTeX • Markdown • html • WinCC