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LFHCAL Insert Next Steps



U.S. DEPARTMENT
of **ENERGY**

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Insert Studies

- Aiden has implemented a simplified engineering geometry for the insert
 - Get some part of next simulation campaign with new insert implementation?
- Understand insert occupancy from beam backgrounds and DIS
 - Almost there thanks to Aiden's phenomenal work
- Quantify loss in eta acceptance
 - Quantify impact of deeper longboard slots for CALOROC-on-longboard option
- Quantify loss in reconstruction efficiency
 - (this short sentence carries a lot of weight...)
- We do not (currently) have access to the code used for the UCR studies

A Fourth Insert Readout Option (oh no...)

- Passive longboards with passive longitudinal summing **on the longboard**.
 - Vastly reduced trace density on longboard mitigates crosstalk issues
 - Aiden has effective hit rates for this type of option already
- Insert is accessible, can upgrade to tile-by-tile readout in the future with new longboard + extra CALOROCs
 - Likely need to exchange insert SiPMs on some recurring timeframe anyway