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# Performance optimization for a scintillating glass electromagnetic calorimeter at EIC

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Successful realization of EIC scientific program requires designing and constructing high-performance particle detectors. Recent developments in the field of scientific computing and increased availability of high performance computing resources have made it possible to perform optimization of multi-parameter designs, even when the latter require longer computational times (for example simulations of particle interactions with matter). Procedures involving machine-assisted techniques used to inform the design decision have seen a considerable growth in popularity among the EIC detector community. Having already been realized for tracking and RICH PID detectors, it has a potential application in calorimetry designs. A SciGlass barrel calorimeter originally designed for EIC Detector-1 has a semi-projective geometry that allows for non-trivial perfomance gains, but also poses special challenges in the way of effective exploration of the design space while satisfying the available space and the cell dimension constraints together with the full detector acceptance requirement. This talk will cover specific approaches taken to perform this detector design optimization.

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