

Abstract Submitted  
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**Physics at the Frontier HS Teacher Workshop: bringing particle physics and cloud chambers into the classroom**<sup>1</sup> ALYX GLEASON, JAMIE BEDARD, MATTHEW BELLIS, Siena College, CMS COLLABORATION — In the summer of 2015, we hosted 10 high school teachers for a three-day “Physics at the Frontier” Workshop. The mornings were spent learning about particle physics, CMS and the LHC, and radiation safety while the afternoons were spent building turn-key cloud chambers for use in their classrooms. The basic cloud chamber design uses Peltier thermoelectric coolers, rather than dry ice, and instructions can be found in multiple places online. For a robust build procedure and for easy use in the classroom, we redesigned parts of the construction process to make it easier to put together while holding costs below \$200 per chamber. In addition to this new design, we also created a website with instructions for those who are interested in building their own using this design. This workshop was funded in part by a minigrant for Outreach and Education from the USCMS collaboration. Our experience with the workshop and the lessons learned from the cloud chamber design will be discussed.

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