

## Contribution submission to the conference Bonn 2020

### Design optimizations and assembly status of the Electromagnetic Target Calorimeter of the $\overline{PANDA}$ experiment —

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The future  $\overline{PANDA}$  experiment with a next generation detector will focus on hadron spectroscopy. It will use cooled anti-proton beams with a momentum between 1.5 GeV/c and 15 GeV/c interacting with various targets. This allows to direct form all states of all quantum numbers and measure their widths with an accuracy of a few tens of keV. Its electromagnetic target calorimeter will be located inside a 2T solenoid and has the challenging aim to detect photons with excellent energy resolution over the full dynamic range. To reach this goal, improved PbWO<sub>4</sub> scintillator crystals, cooled down to  $-25^{\circ}\text{C}$  have been chosen. The target calorimeter itself is divided into a barrel and two endcaps. The individual crystal will be read out with two precisely matched large area avalanche photo sensors (APD). In the very inner part of the forward endcap vacuum phototetrodes will be used instead. In this talk the construction and assembly status will be presented. This includes for example the assembly of detector subunits, mechanical support structure, the cooling system, optical monitoring system and front end electronics.

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