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XMASS 1.5, the next step of the XMASS experiment

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XMASS, the Kamioka Dark Matter direct detection experiment with an eye to future multi purpose detector, is planning to improve its Dark Matter sensitivity by increasing the amount of liquid xenon in its inner detector volume from the current 832kg to 5 metric tons. Challenges identified with the current detector informed the design of this upgrade. In this presentation, we present the new detector design and discuss how it addresses these challenges. In particular we discuss how the new photomultipliers with their non-flat photocathode layout improve fiducialization.

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