

	<p>5th International Conference on Micro-Pattern Gas Detectors (MPGD2017) and RD51 Collaboration Meeting Temple University, Philadelphia, USA May 22-26, 2017</p> <p>Meeting Home Page: https://phys.cst.temple.edu/mpgd2017/ May 22 - 25, 2017: MPGD2017 Conference — May 26, 2017: RD51 Collaboration Meeting</p>	
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Performance of the CAST Micromegas detectors detectors and perspectives for IAXO

Tuesday, May 23, 2017 4:20 PM (20 minutes)

During 2013 to 2015 the CERN Axion Solar Telescope (CAST) has effectuated its final phase of solar axion searches providing a world leading limit on the axion photon coupling strength for $m_a < 0.02$ eV. This sensitivity has been reached thanks to the development of novel detection systems, notably new Micromegas detectors with lower background levels, as well as a new X-Ray Telescope built specifically for axion searches. The background level achieved is below 10^{-6} keV $^{-1}$ cm $^{-2}$ s $^{-1}$. These innovations serve as pathfinders for a possible next-generation axion helioscope, notably the proposed International Axion Observatory (IAXO). The planned developments of the Micromegas IAXO detectors will also be shown.

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Session Classification: Applications at future nuclear and particle physics facilities - 3 (Chair: Tom Hemmick)