

Title: BMV project: Final results on photon oscillations into massive particles

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Abstract

Within the BMV project, a "light shining through the wall" experiment has been built in France in order to put limits to the coupling between photons and massive particles. The experiment consists in converting photons into massive particles in a transverse magnetic field. The novel approach is to use pulsed technology: a 5 ns kJ laser goes through pulsed magnets and photoregenerated photons are detected on a time-gated single photon receiver. This approach allows us to measure very small conversion rates free from the background counts of photon detectors. This experiment gave its first results during summer 2007 and was one of the first that excluded PVLAS axion detection reported in 2006. After describing the experimental set-up, I will present the final results. I will also present the status of the art of the BMV experiment in Toulouse.