

Title: **Raising WISP production rates by use of optical cavities**

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Abstract

One might possibly produce a large variety of exotic hypothetical particles, so called weakly interacting sub-eV particles or WISPs, by interaction of a strong light beam with a strong magnetic field. In this case, the rate of produced WISPs scales linearly with the number of photons travelling through the magnet. A convenient way of enlarging the number of photons inside the magnet is the use of an optical cavity, which causes a build-up of its inner light field by coherent superposition. By this WISP production rates should be scalable by orders of magnitude compared to a single pass of the light beam through the magnet. A realistic experimental setup at the ALPS experiment is shown and an outlook on the possible future raise of the WISP production rate is given.