Search for ALPs in monojet final states

The results of the monojet search using 36.1 fb^{-1} of $\sqrt{s} = 13 \text{ TeV}$ data from the ATLAS detector are reinterpreted in the context of a search for the associate production of an axion-like CP-odd boson and a gluon. Such processes are predicted by models addressing the strong CP problem of QCD [1], leading to a variety of signatures which depend on the assumed couplings of the axion-like particle to Standard Model particles.

Masses for the axion-like particle in the range 10 keV and 1 GeV and a coupling strength to gluons between $1.2 * 10^{-5}$ and $1.2 * 10^{-3}$ are considered. The results are expressed in terms of 95% confidence level exclusion limits in the mass-coupling plane.

[1] I. Brivio et al., arXiv:1701.05379

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