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## Search for $\gamma$ -transitions from clustered states in $^{16}\text{O}^*$

An overview of the  $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$  experiment at the University of Birmingham's MC40 cyclotron is presented in this work.

The experimental set-up was a combination of the existing charged particle expertise and capability of the group and the ability to measure the emitted gamma rays using our new LaBr3 detector array. The motivation for this is to measure or put constraints on the  $B(E2)$ s for the  $^{16}\text{O}$  nucleus. Such observations aid the assignment of rotational levels built on cluster configurations.

This work is part of my PhD research.

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