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## **(G\*) Search for multiquark states decaying to neutral strange particles: $K_s^0$ and $\Lambda^0$ (or $\bar{\Lambda}^0$ )**

*Monday 6 June 2022 11:30 (15 minutes)*

Conventional matter consists of mesons, made of two quarks or baryons, made of three quarks. However, the Standard Model of Particle Physics does not forbid particles consisting of more than three quarks. This analysis focuses on the search for possible exotic hadronic states using strange particles, the kaon meson ( $K_s^0$ ) and the lambda baryon ( $\Lambda^0$  or  $\bar{\Lambda}^0$ ) with the ATLAS Run 2 data. Bump searching techniques are to be performed on the invariant  $K_s^0 K_s^0$ ,  $K_s^0 \Lambda^0$  and  $\Lambda^0 \Lambda^0$  mass spectra to look for possible multiquark states. Summary of the ongoing analysis including the background studies will be presented in the talk.

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