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Observation of the $\Omega(2012)$ baryon at ALICE

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The ALICE Collaboration has observed the $\Omega(2012)$ baryon via its decays to $\Xi^- K_S^0$ in high-multiplicity proton-proton collision at $\sqrt{s} = 13$ TeV. This observation, which has a significance of 15 sigma, corroborates the discovery of this particle by Belle in 2018. The measured mass and width values are consistent with those reported by Belle, confirming that the Omega(2012) has a rather narrow width for a particle that decays strongly. The first measurement of a p_T spectrum and yield for the $\Omega(2012)$ is also reported. In combination with thermal model calculations, these results can be used to obtain absolute branching ratios for two-body decays of the $\Omega(2012)$. The width and branching-ratio measurements provide further support for the hypothesis that the $\Omega(2012)$ baryon has spin 3/2. This presentation will describe the analysis technique and discuss the results in comparison to previous measurements and theoretical models.

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