

## Looking out for new physics through the top window

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The mass of the top quark is a fundamental parameter of the standard model and has to be determined experimentally. Its precise knowledge can be used to constrain new physics models and to scrutinise the standard model. Dramatic and innovative improvements in experimental techniques over the last years allowed to achieve a precision of below 0.4%, which is unprecedented in the quark sector. In this talk, I will present the world's best measurements of the top mass, in the context of constraints on physics beyond the standard model. I will also cover novel experimental approaches, like the measurement of the top quark mass in topologies enriched with single top events, or the in-situ calibration of the b quark jet energy scale. I will conclude by outlining the perspectives for future measurements of the top quark mass at the LHC and at a future electron-positron collider.