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## A reading course on top-quark physics

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## Session 04: Top mass measurements

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Keywords: top quark mass, direct measurement, indirect measurement, combination

## 1 Literature

Find and read one of the following publications:

- ATLAS Collaboration, Measurement of the Top Quark Mass with the Template Method in the  $t\bar{t} \rightarrow lepton+jets$  Channel using ATLAS data, Eur.Phys.J. C72 (2012) 2046.
- ATLAS Collaboration, Measurement of the top quark mass in topologies enhanced with single top quarks produced in the t-channel at  $\sqrt{s} = 8$  TeV using the ATLAS experiment, ATLAS-CONF-2014-055.
- ATLAS Collaboration, Determination of the Top-Quark Mass from the  $t\bar{t}$  Cross Section Measurement in pp Collisions at  $\sqrt{s}=7$  TeV with the ATLAS detetor, ATLAS-CONF-2011-054.
- L. Lyons, D. Gibaut and P. Clifford, How to combine correlated estimates of a single physical quantity, Nucl. Instrum. Method. A270 (1988) 110. Use this paper to understand how Fig. 2 of this paper was obtained: ATLAS, CDF, CMS and DØ Collaborations, First Combination of Tevatron and LHC measurements of the top-quark mass, arXiv:1403.4427.