Abstract

In summer 2012 the CMS and ATLAS experiments at the LHC reached an important milestone. A new boson with a mass around 126 GeV was discovered in the combination of searches for the Higgs boson in $H \rightarrow \gamma \gamma$, $H \rightarrow ZZ^{(*)} \rightarrow 4l$ and $H \rightarrow WW \rightarrow l\nu l\nu$ decays. Recent results from both collaborations confirm this discovery. The observed production and decay modes are compatible with those predicted for the Standard Model Higgs boson. However, to associate the observed particle with Standard Model or a theory beyond, its properties should be measured and other production and decay modes observed experimentally.

In this presentation the review of the current searches for the Higgs boson in ATLAS will be given. The status of current studies of properties of the new resonance will be discussed. A part of the discussion will be dedicated to prospects of the Higgs physics in ATLAS.