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Optimization of the electron reconstruction and identification in ATLAS experiment and implications on the Higgs to 4 electrons analysis.

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The search for the Higgs boson will be one of the main issues in the next year in the ATLAS detector. The H->ZZ->4e channel in particular, is a very promizing channel to discover the Higgs for masses above 130 GeV with a clean electron signal. The electron reconstruction and identification plays here a key role. Since the CSC note published 2 years ago a lot of work as been done in order to futher optimize both reconstruction and identification efficiencies of , while maintaining a high rejection power against backgrounds. Those optimizations induce an increase of our discovery potential in the H->ZZ* channel.

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