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Reconstruction and performance of Missing Transverse Energy with 3.21 fb^{-1} of data collected by the ATLAS detector

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At the LHC, the Missing Transverse Energy ($E_{\text{T}}^{\text{miss}}$) is defined as the transverse component of the energy of particles that do not leave any detectable signatures. As such it is a vital component in many searches for SUSY or dark matter. In 2015, the ATLAS detector collected good quality data corresponding to 3.21 fb^{-1} of integrated luminosity, which provides an excellent test of the performance of $E_{\text{T}}^{\text{miss}}$. In run 2, the $E_{\text{T}}^{\text{miss}}$ uses a track based soft term and calibrated preselected user defined hard objects. $E_{\text{T}}^{\text{miss}}$ is studied in event topologies without real $E_{\text{T}}^{\text{miss}}$, such as $Z \rightarrow \mu\mu/ee$ and with real $E_{\text{T}}^{\text{miss}}$ such as $W \rightarrow e\nu_e/\mu\nu_\mu$. The distributions of $E_{\text{T}}^{\text{miss}}$ and its components are compared between data and monte carlo simulated signals/backgrounds. The $E_{\text{T}}^{\text{miss}}$ diagnostics such as the scale, resolution and response are shown.

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