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Using a Regressional Analysis to Improve the b-jet energy correction in $WH \rightarrow \ell \nu bb$ Searches at ATLAS

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Presented is a method to improve the b-jet energy resolution with the task of increasing the signal sensitivity in searches decaying to a b, anti-b quark pair in the final state. The machinery has been tested using Monte Carlo simulated samples in the process $WH \rightarrow l\nu bb$. The method trains a function through regression applying a correction factor to bring the reconstructed jet energy closer to that of generator level energy. This narrows the b anti-b jet mass peak of the signal, and therefore increases the signal to background separation

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