

1 EVIDENCE FOR DECAYS OF THE HIGGS BOSON TO TAU
2 LEPTONS AT ATLAS

3 Alexander Tuna

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5 in

6 Physics and Astronomy

7 Presented to the Faculties of The Univeristy of Pennsylvania
8 in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy
9 2014

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ABSTRACT

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EVIDENCE FOR DECAYS OF THE HIGGS BOSON TO TAU LEPTONS AT ATLAS

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Alexander Tuna

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H.H. Williams

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Preface

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Ryan Reece

CERN, December 2012

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CHAPTER 1

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Introduction

86 Here is a citation [1].

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CHAPTER 2

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$H \rightarrow \tau\tau$ analysis strategy

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The strategy of the $H \rightarrow \tau\tau$ strategy is described.

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2.1 Introduction

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2.2 $\tau\tau$ mass reconstruction

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2.3 MVA discrimination

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Here is a citation [\[1\]](#).

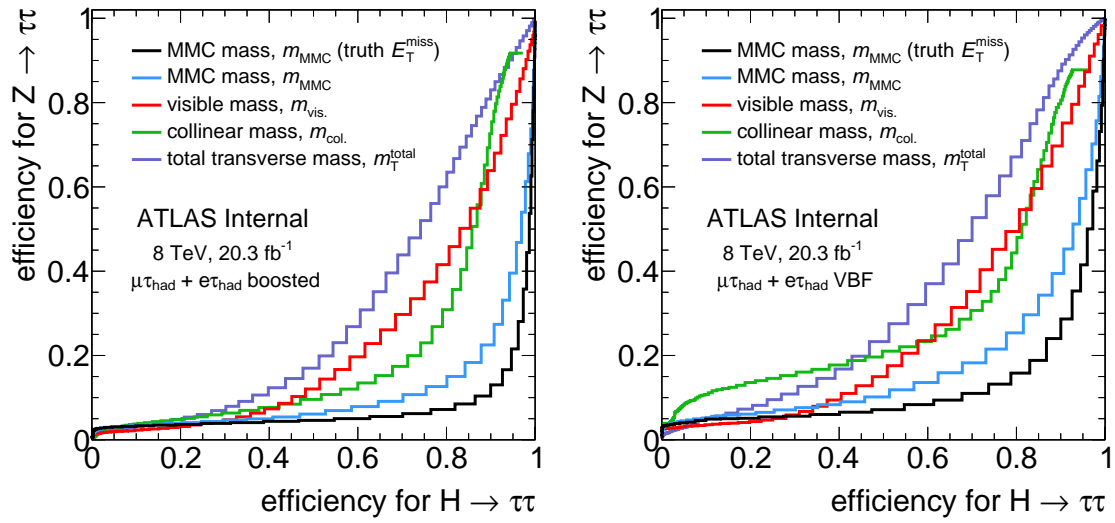


Figure 2.1: Variables.

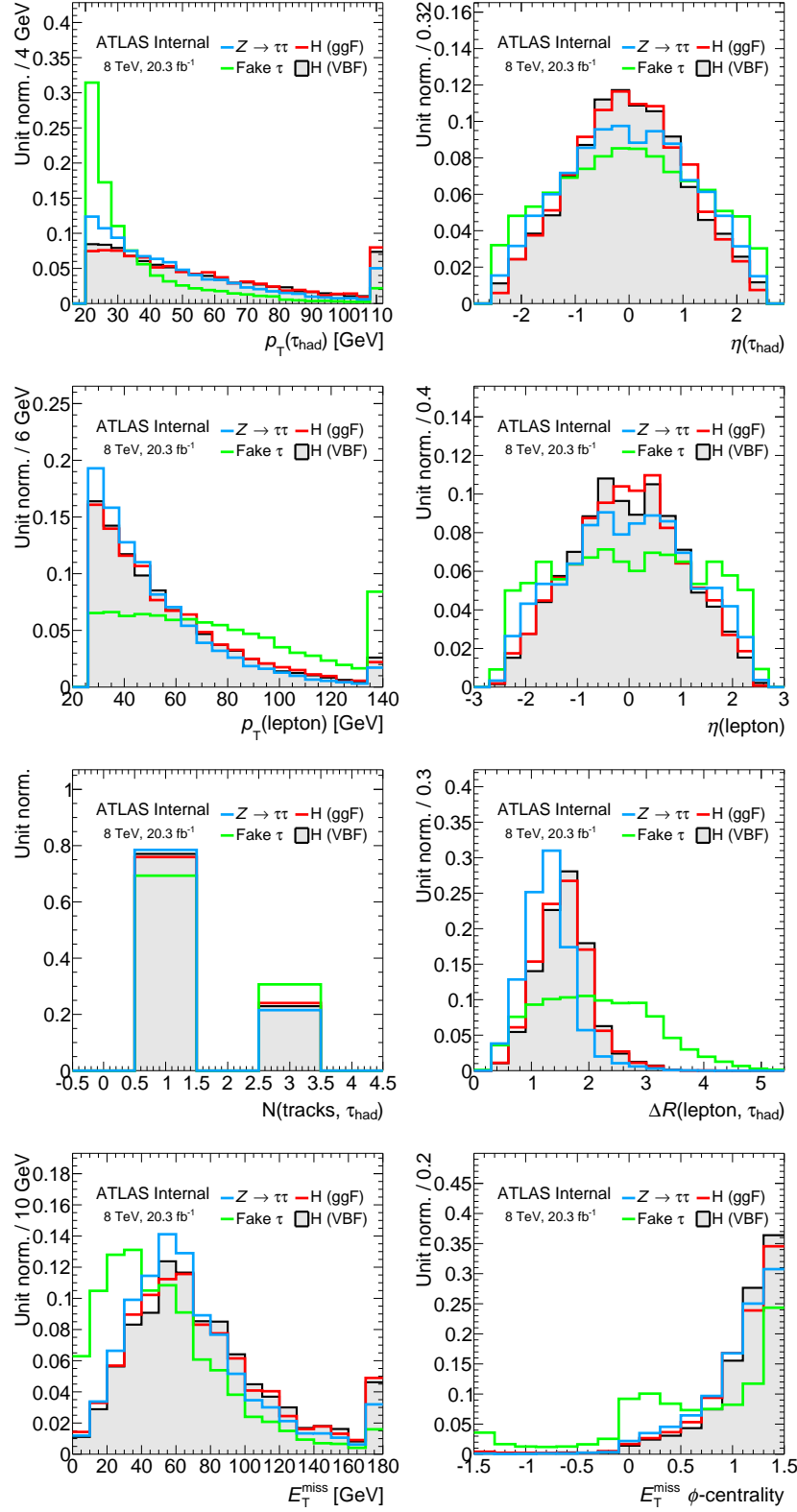


Figure 2.2: Variables.

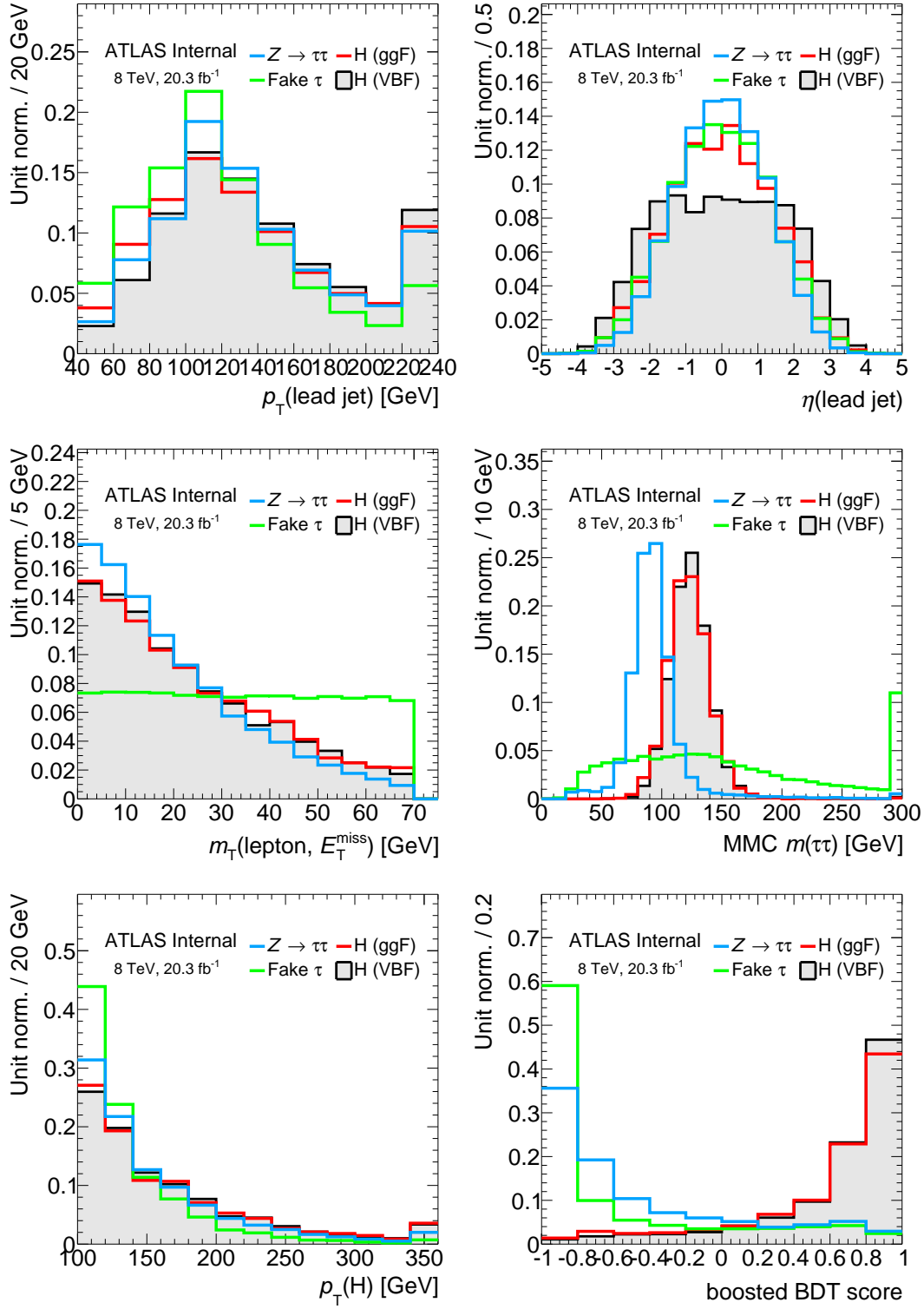


Figure 2.3: Variables.

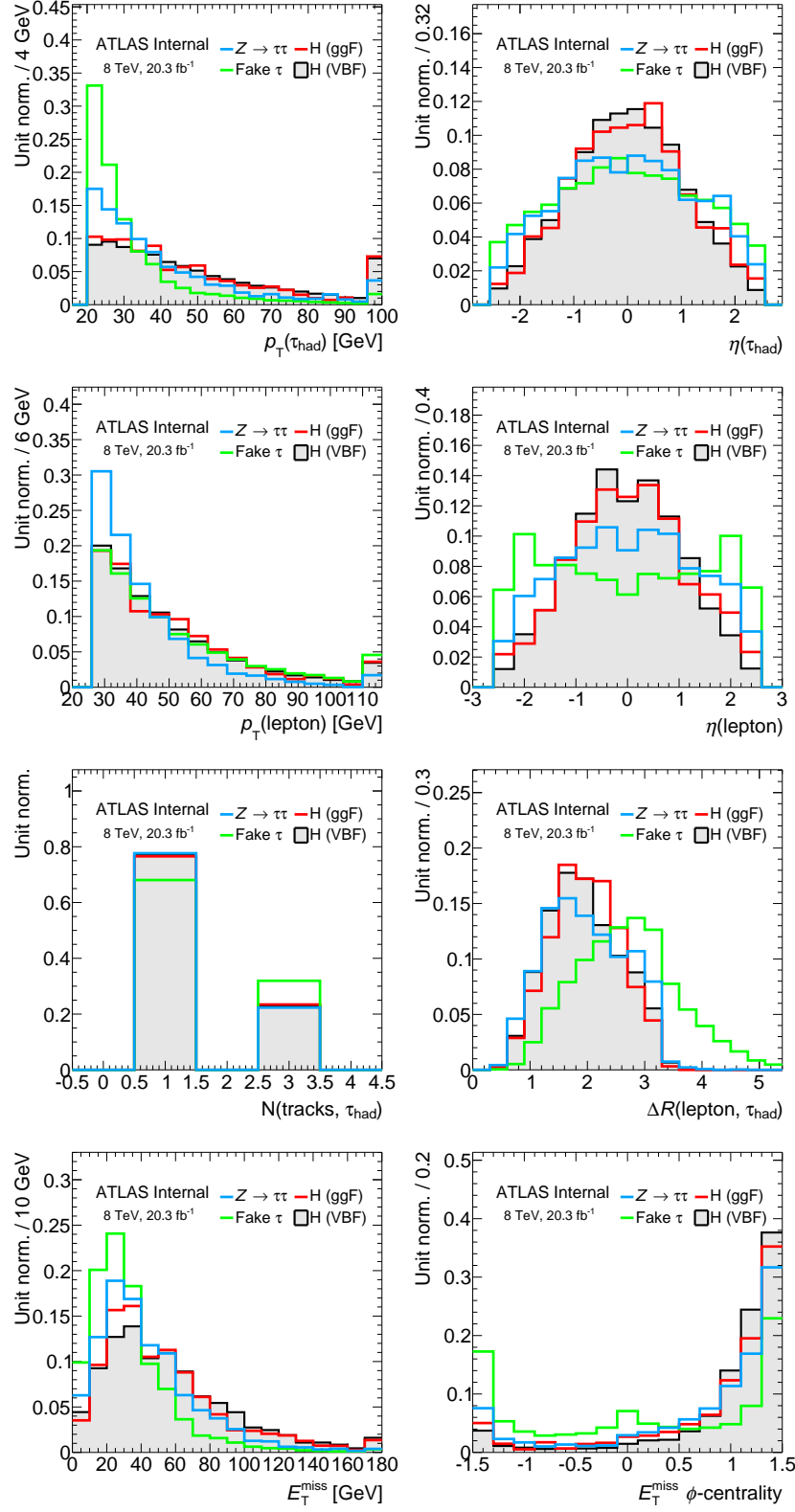


Figure 2.4: Variables.

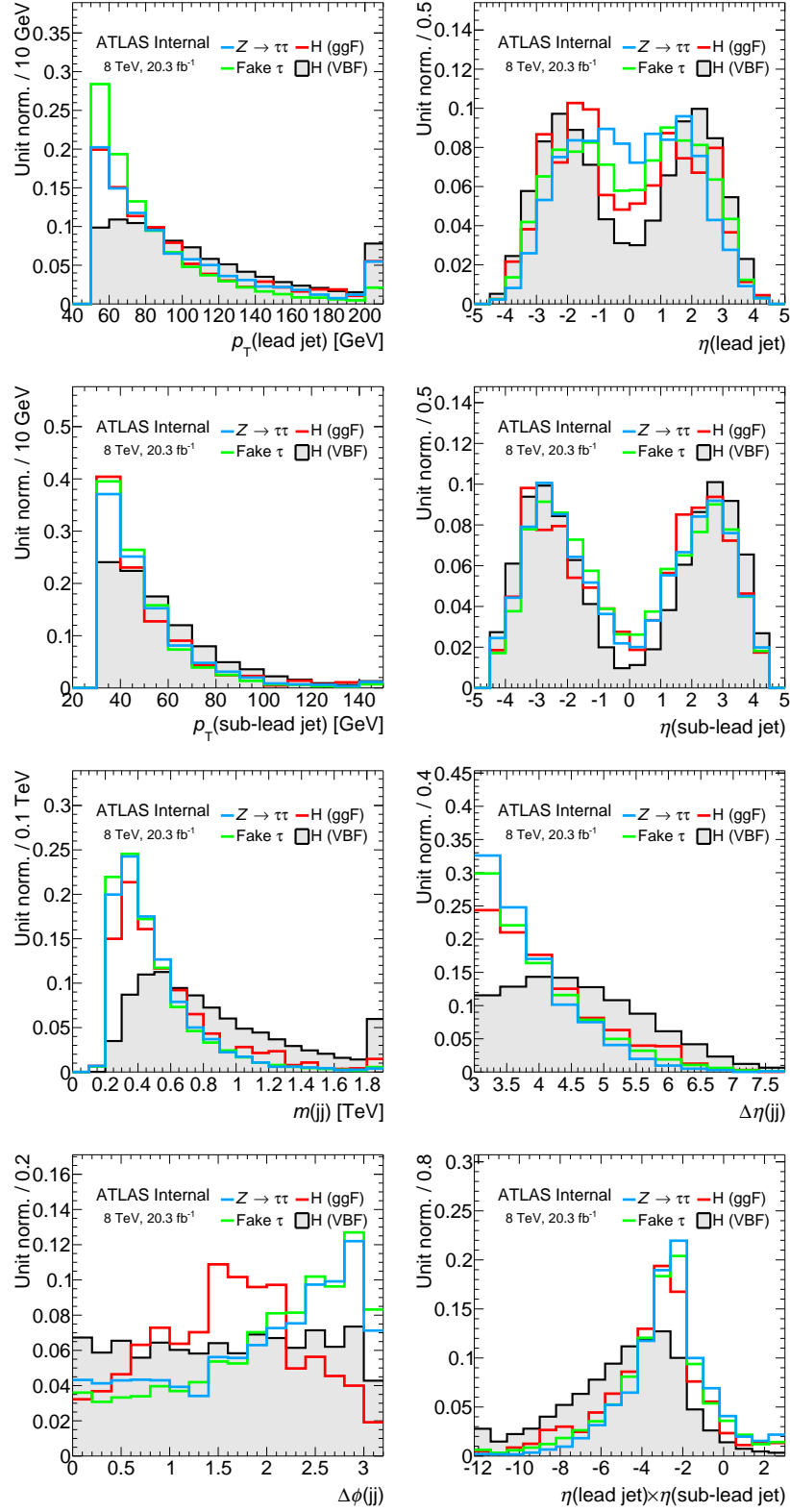


Figure 2.5: Variables.

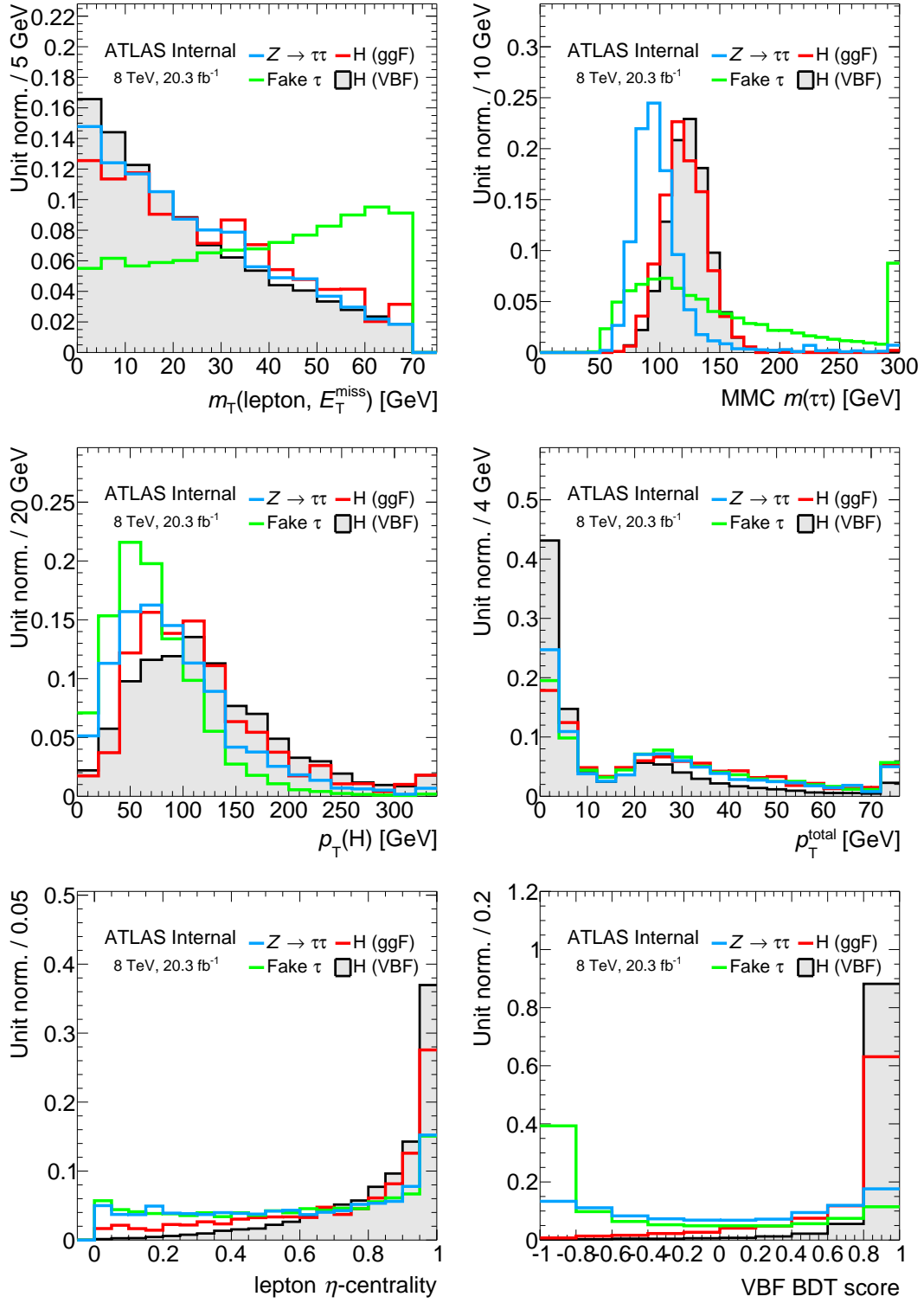


Figure 2.6: Variables.

Bibliography

- ⁹⁵ [1] ATLAS Collaboration, *ATLAS detector and physics performance: Technical Design Report*.
⁹⁶ CERN, Geneva, 1999. [1](#), [2.3](#)