

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

3 Alexander Tuna

4 A DISSERTATION

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

73 This is the preface. Blah blah blah blah blah blah. Blah blah blah blah blah blah. Blah
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Ryan Reece

CERN, December 2012

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CHAPTER 1

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Introduction

88 Here is a citation [1].

Tau leptons

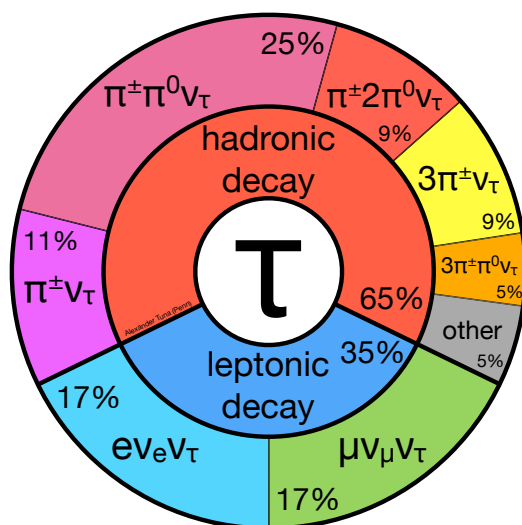


Figure 2.1: Variables.

CHAPTER 3

$H \rightarrow \tau\tau$ analysis strategy

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

3.1 Introduction

3.2 Categorization

3.3 $\tau\tau$ mass reconstruction

3.4 MVA discrimination

Here is a citation [1].

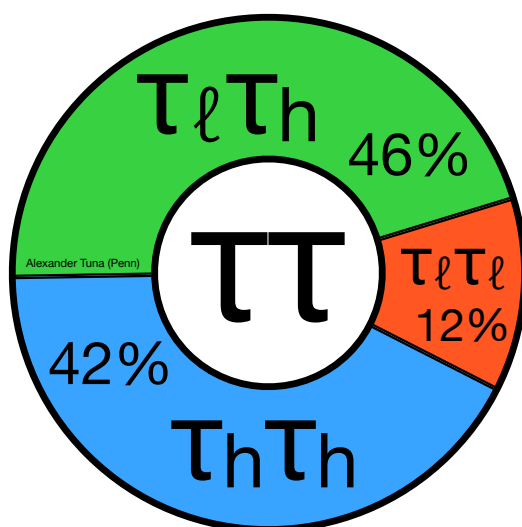


Figure 3.1: Variables.

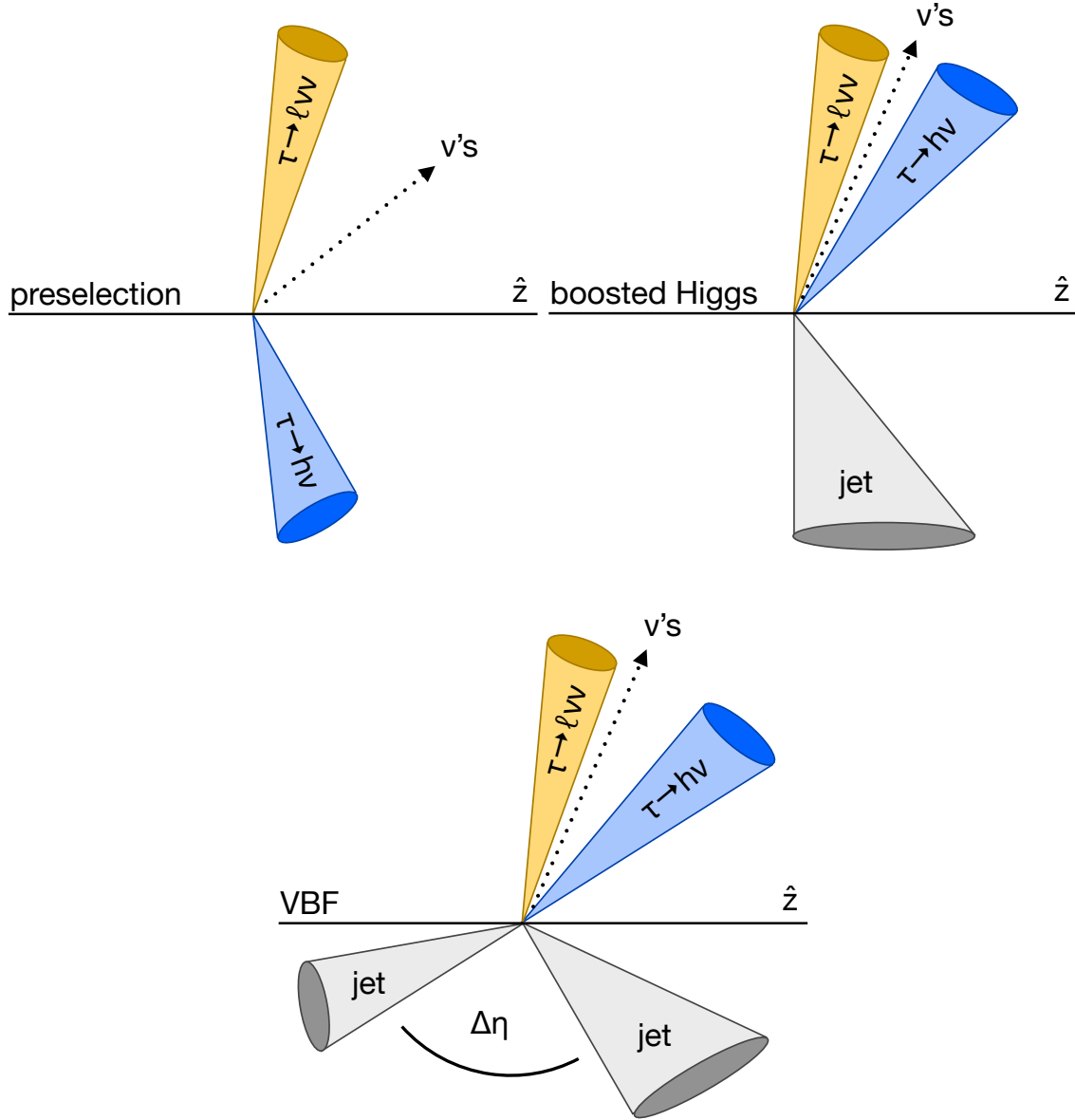


Figure 3.2: Variables.

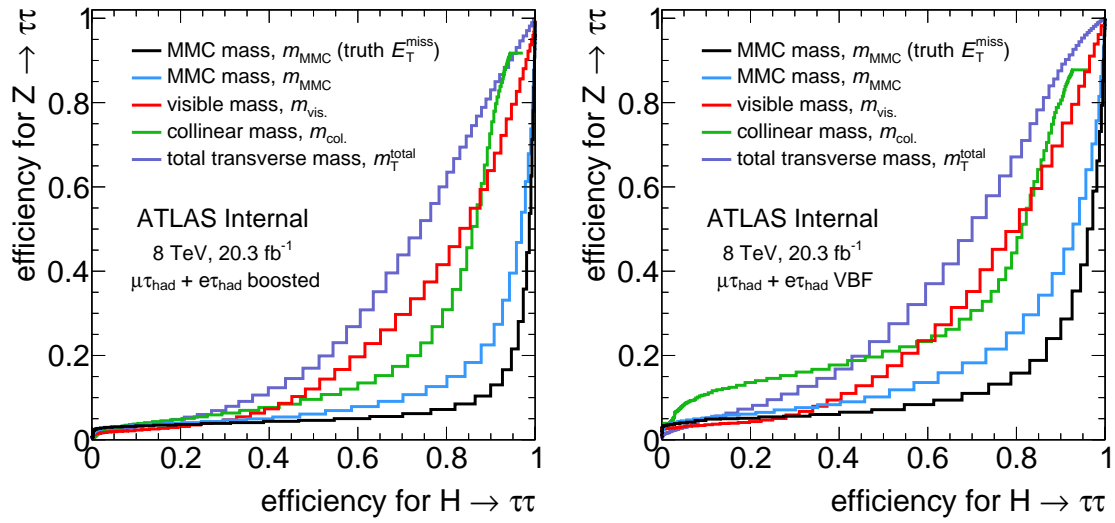


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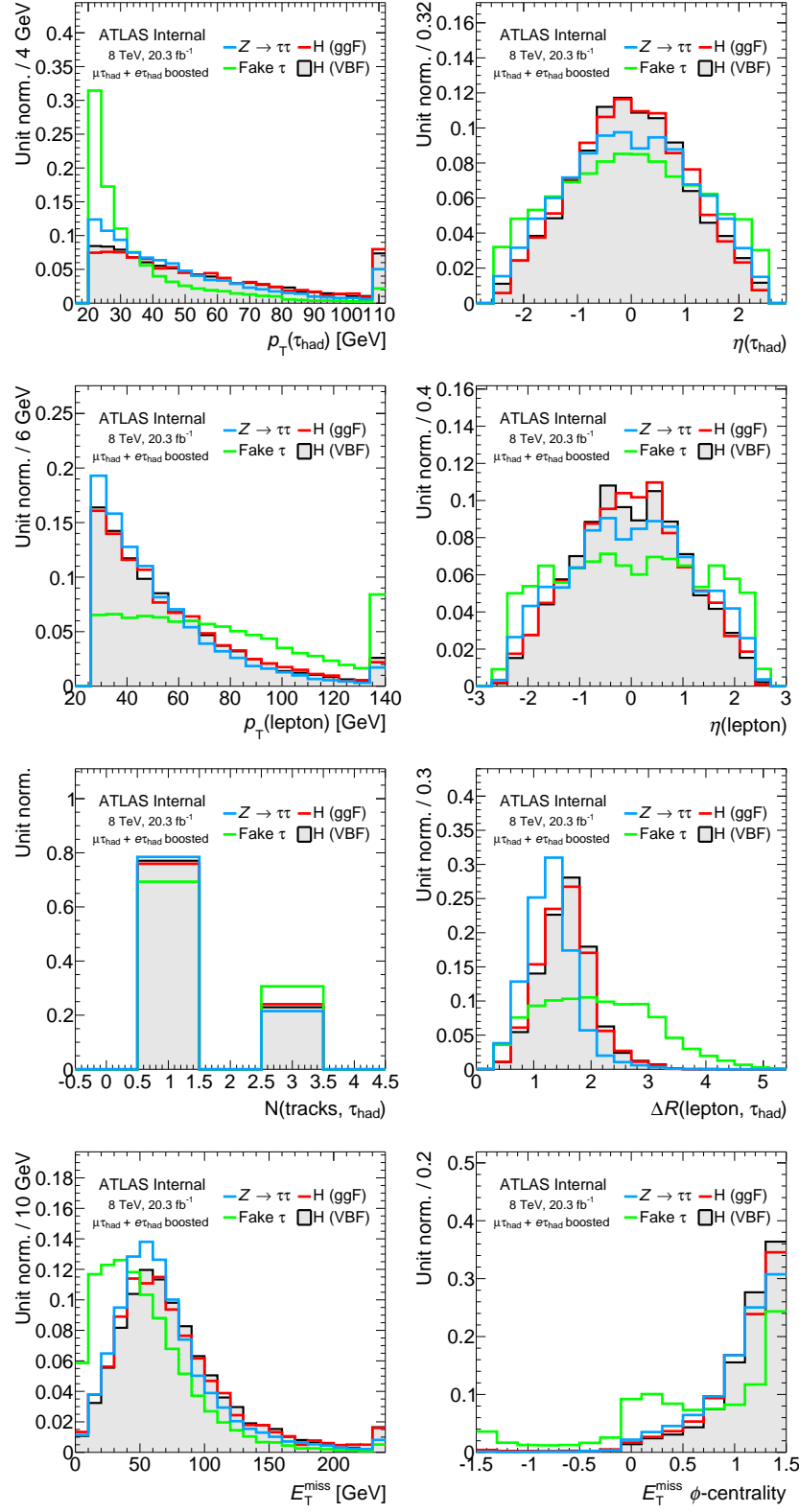


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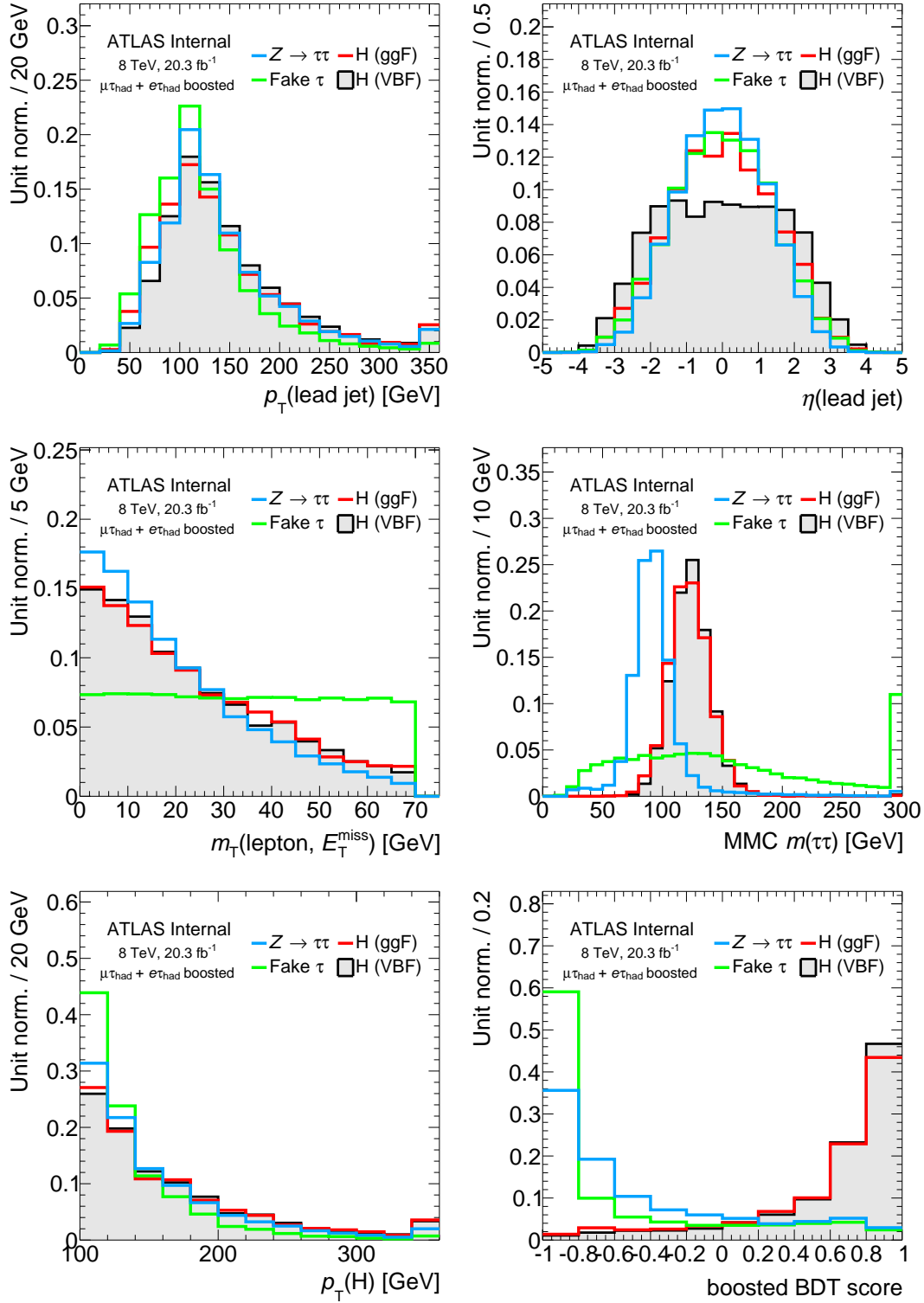


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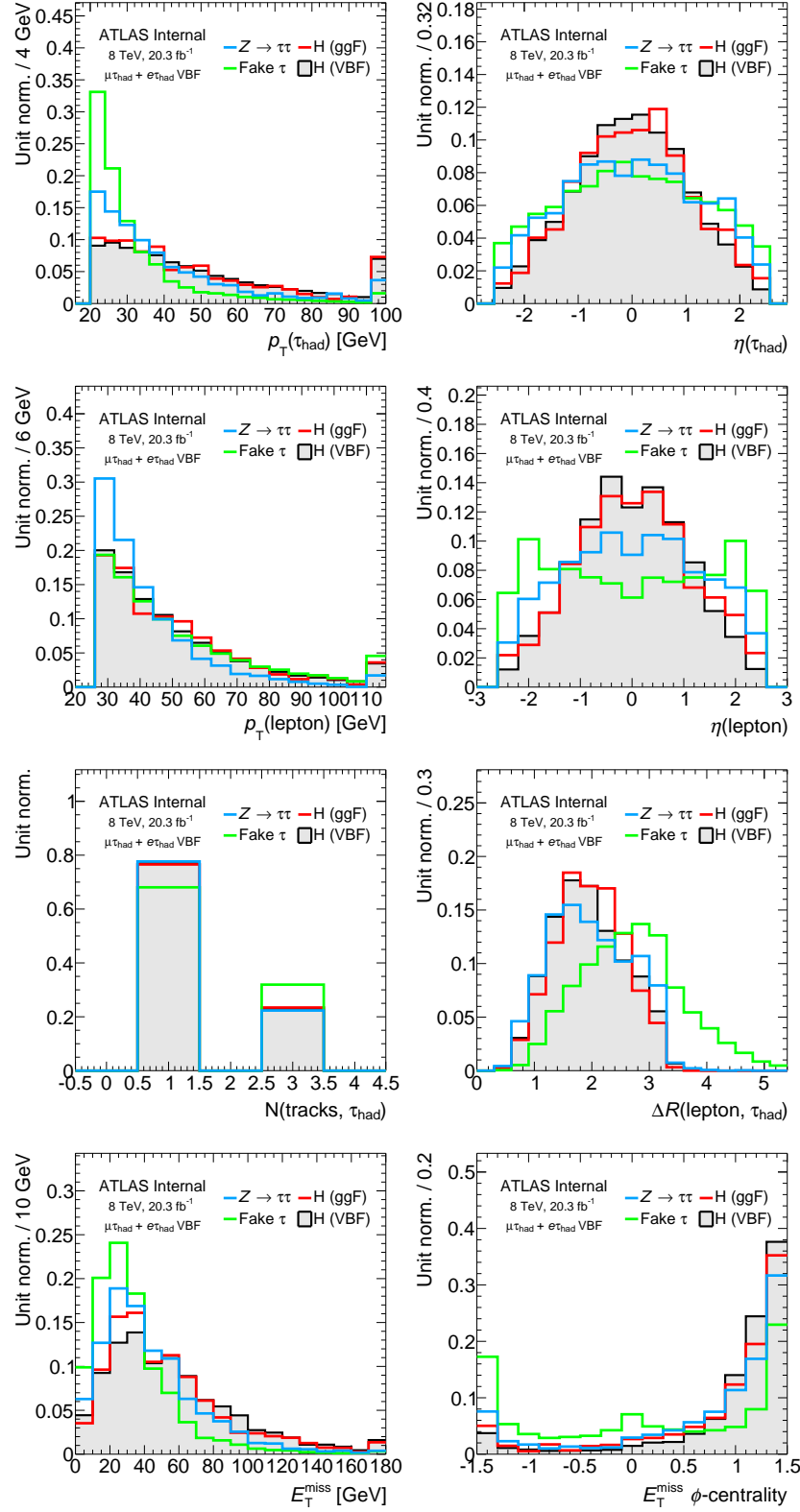


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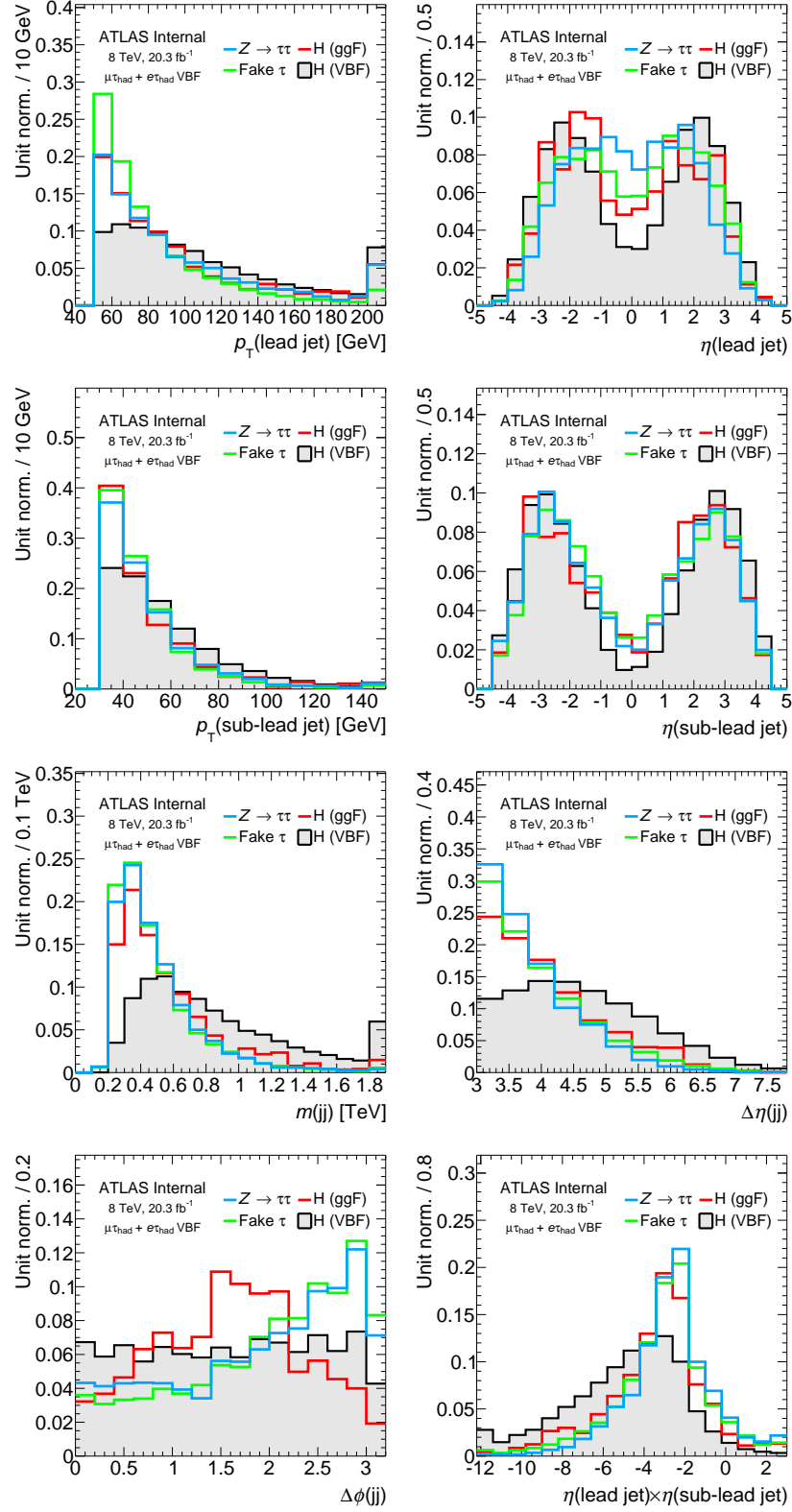


Figure 3.7: Variables.

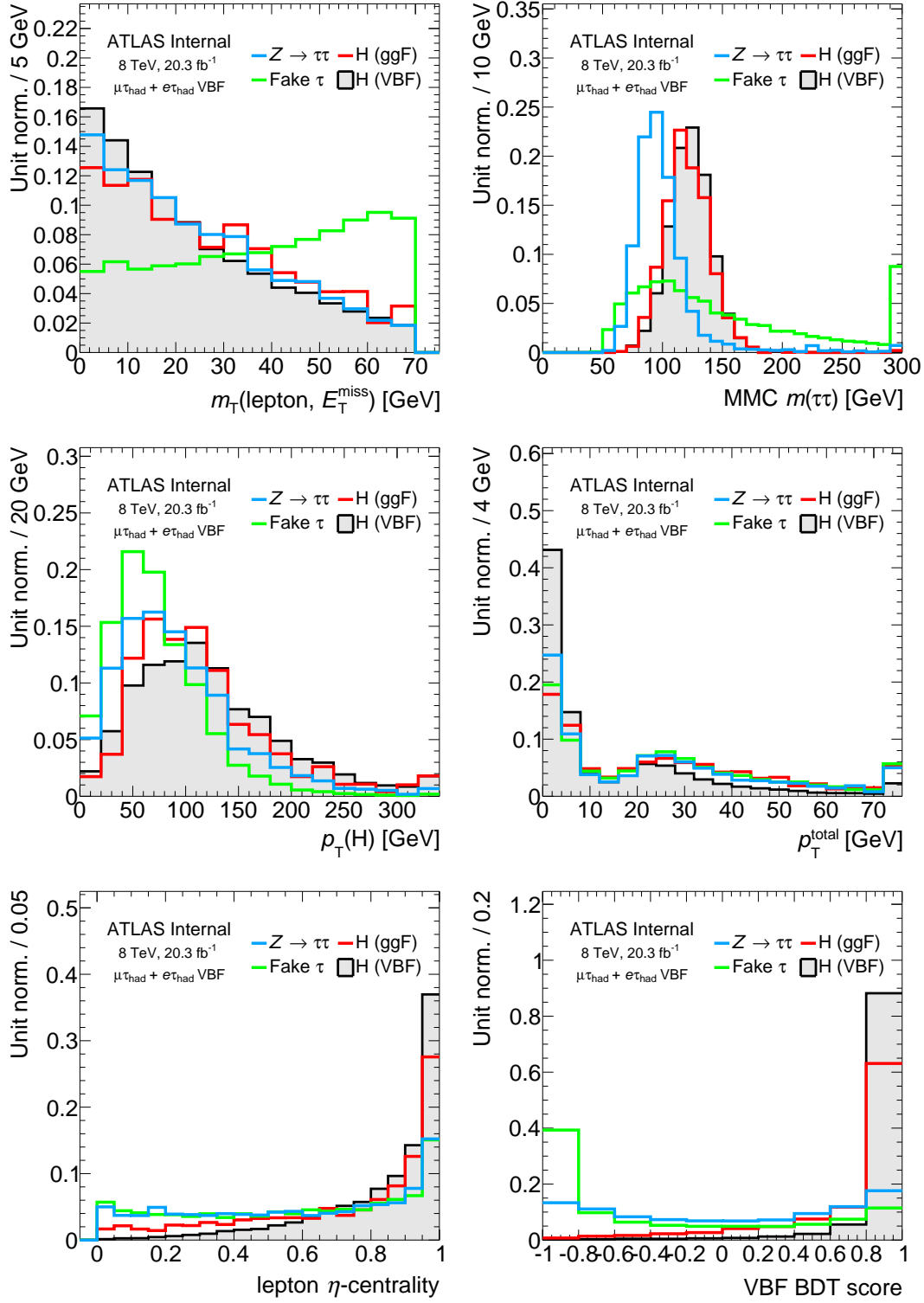


Figure 3.8: Variables.

Bibliography

- ¹⁰⁰ [1] ATLAS Collaboration, *ATLAS detector and physics performance: Technical Design Report*.
¹⁰¹ CERN, Geneva, 1999. [1](#), [3.4](#)