1 Abstract

2 Theoretical background

2.1 Standard model

- issues

2.1.1 q*

- common conclusion from composite models

2.2 LHC

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2.2.1 CMS

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2.2.1.1 Jets .

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3 Search for excited quarks

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3.1 Method of analysis

- dominant background: QCD (gg-gg e.g. - two jets)
- division in QCD bg and signal

3.1.1 Signal/Background modelling

- expected: bg smooth falling

3.2 Event selection

- division in pre/post selection
- preselection for trigger efficiency and general physical cuts
- post selection to apply different taggers

3.2.1 Preselection

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3.2.2 Tagger

- Cut on softdropmass

3.2.2.1 Tau21 .

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3.2.2.2 DeepBoosted .

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3.2.3 Optimization

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3.3 Data MC Comparision

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3.3.1 Sideband

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3.4 Uncertainties (?)

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4 Results

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4.1 2016

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4.1.1 previous research

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4.2 2016 + 2017 + 2018

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5 Summary