



Weekly

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13 June, 2016

Introduction

❖ 20.1 vs 20.7 comparisons;

- data_2015 vs data_2016;
- ttbar

❖ non-res cut-flow;

❖ jet fakes estimations.

20.1 vs 20.7 on data

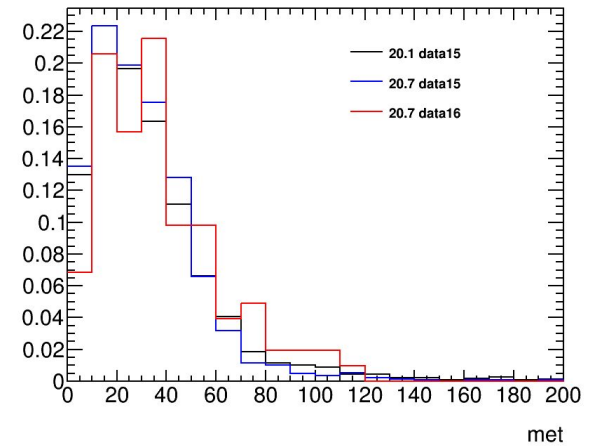
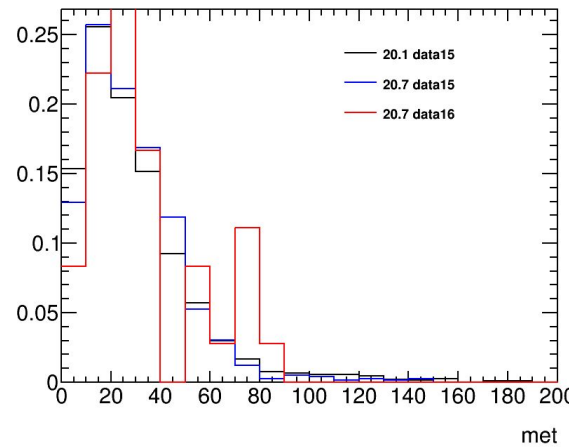
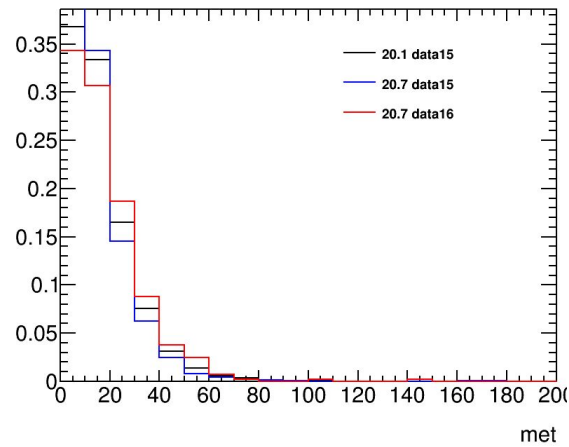
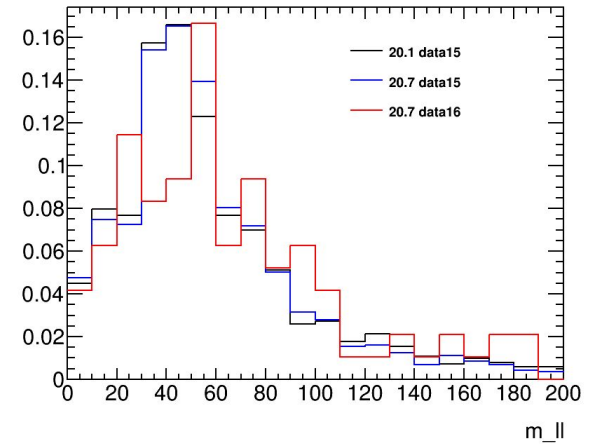
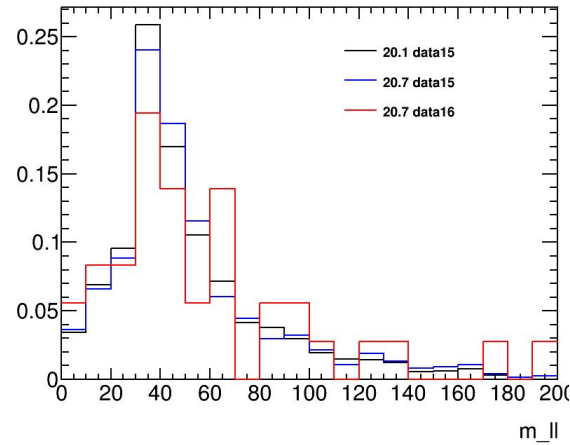
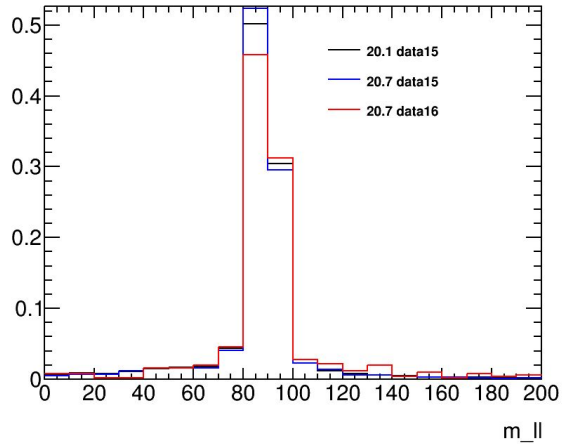
❖ data_15: 276262;

❖ data_16: 300279

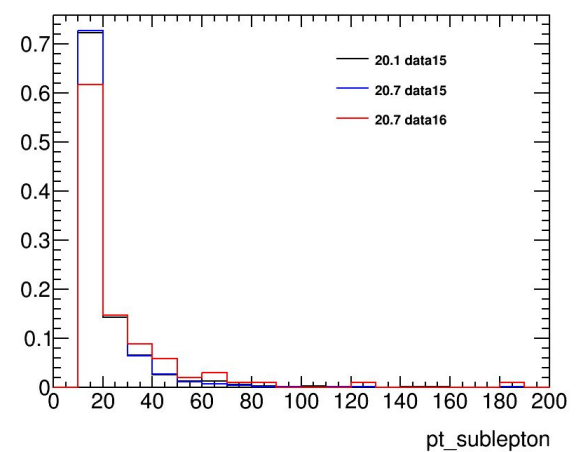
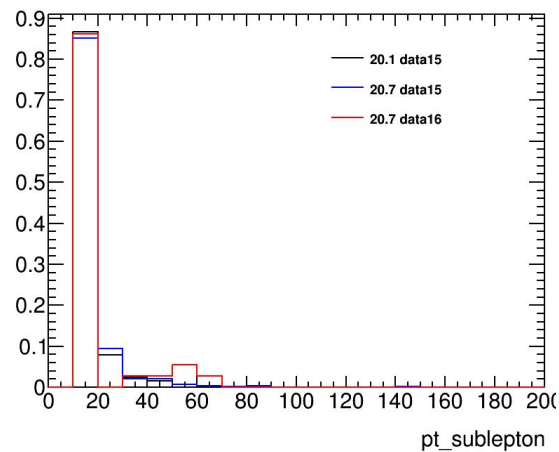
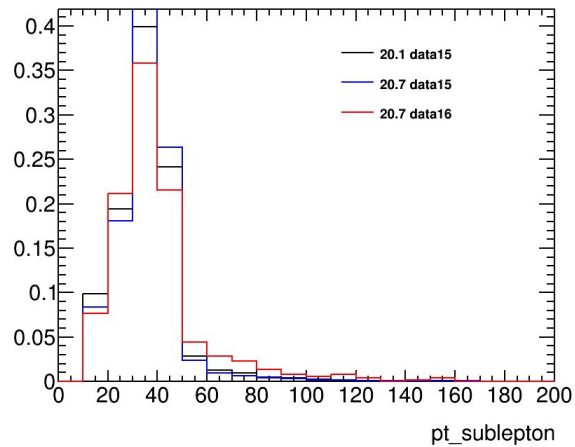
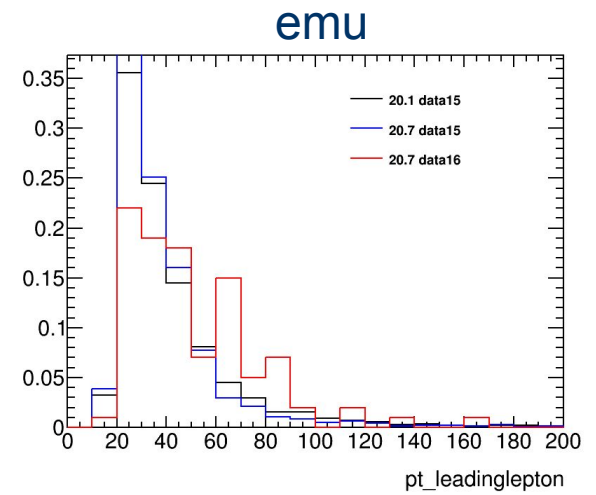
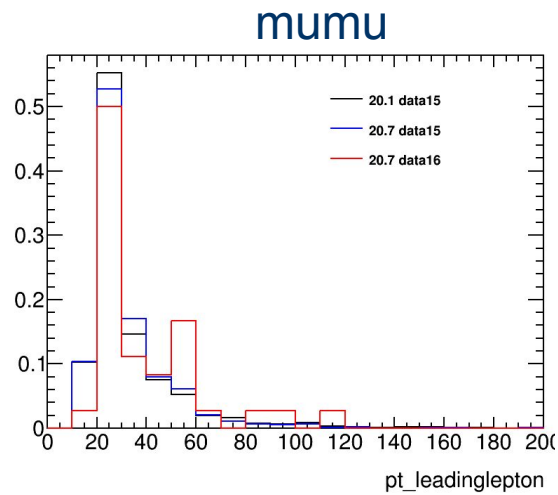
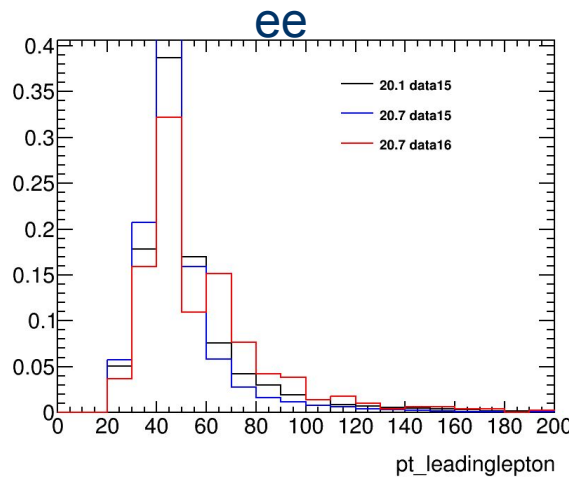
❖ b tagger: MV2c10_70 > -0.8244;

	20.7 data_16	20.7 data_15	20.1 data_15
HIGG8D1	118625(100%)	211649(100%)	222751(100%)
Trigger	14425(12.2%)	50048(23.6%)	51632(23.2%)
2 loose leptons	3201(2.7%)	9270(4.4%)	9372(4.2%)
B veto	2164(1.8%)	7122(3.4%)	8826(4.0%)

20.1 vs 20.7 on data



20.1 vs 20.7 on data



20.1 vs 20.7 on MC

❖ **ttbar 410000;**

❖ **b tagger: MV2c10_70 > -0.8244;**

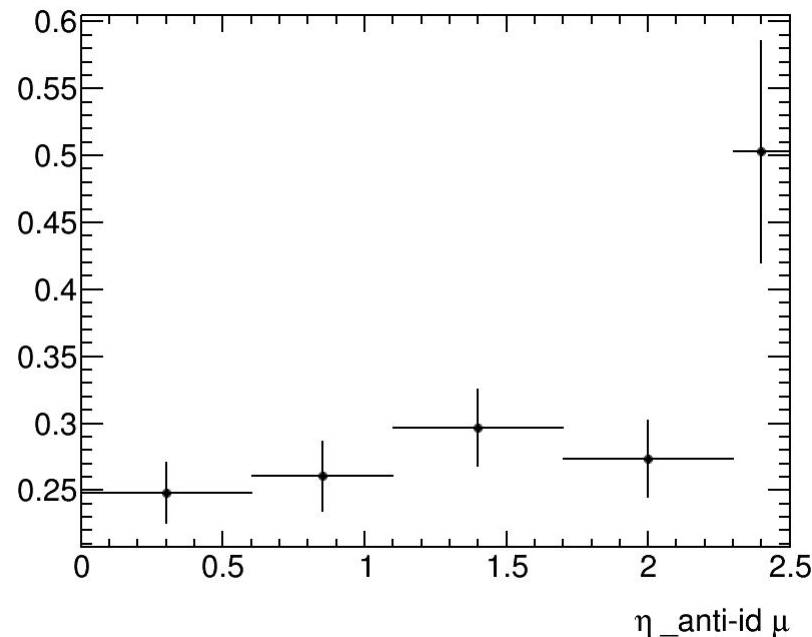
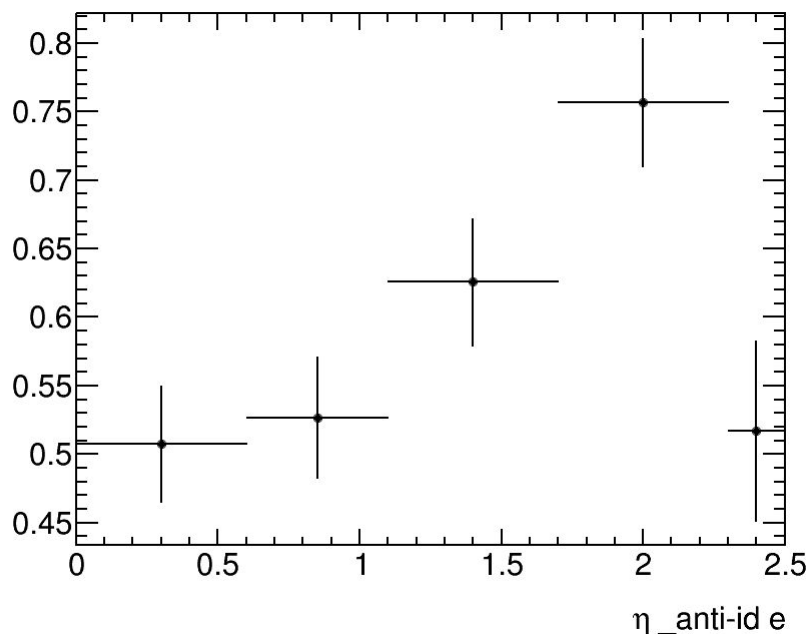
	20.1	20.7
input	10000	10000
Trigger	7583	7377
2 loose leptons	1649	1641
B veto	172	55

non-res cut-flow

	non-res
initial	100%
HIGG8D1	52%
trigger	43%
Object defition, overlap removal(2 loose leptons)	17%
b veto	11%
2 tight leptons, ≥ 4 jets	3.0% (ee 42, mumu 114, emu 132)

jet fakes updates

- ❖ **CR: Njet==3, 2 tight SS leptons;**
- ❖ **Stole QmisID from ttH;**
- ❖ **Anti-id leptons definitions changed;**
 - electrons: failed tight isolation;
 - muons: failed tight isolations, removed impact parameters requirement;
- ❖ **ff(el)=0.611; ff(mu)=0.281**



jet fakes updates

❖ **emu jet fakes excess still observed.**

	ee	mumu	emu
data	150	66	78
QmisID	15.8	~	19.1
prompt SS	10.1	12.4	20.1
jet fakes	117.5	47.0	85.6
(data-bkg)/bkg	6.0%	11.1%	-37.5%

to do list

- ❖ **fix jet fakes excess..;**
- ❖ **run over full data(MC) samples with 20.7.**

Back up

276262, 20.7

```
# input electrons: 22257
# electrons after pT: 20727
# electrons after eta: 20613
# electrons after ID: 20613
# electrons after z0: 20613
# electrons after d0: 20613
# electrons after iso: 17081
# electrons after ORv1: 17058
# electrons after ORv2: 17058
```

```
# input muons: 31229
# muons after pT: 27431
# muons after eta: 27364
# muons after ID: 27364
# muons after z0: 27364
# muons after d0: 27364
# muons after iso: 22712
# muons after OR: 20058
```

```
# input jets: 257274
# jets after pT: 121692
# jets after eta: 109130
# jets after jvt: 87048
# jets after ORv1: 70285
# jets after ORv2: 70126
```

276262, 20.1

```
# input electrons: 23937
# electrons after pT: 21852
# electrons after eta: 21733
# electrons after ID: 21733
# electrons after z0: 21733
# electrons after d0: 21733
# electrons after iso: 17759
# electrons after ORv1: 17667
# electrons after ORv2: 17667
```

```
# input muons: 32226
# muons after pT: 28274
# muons after eta: 28207
# muons after ID: 28207
# muons after z0: 28207
# muons after d0: 28207
# muons after iso: 23530
# muons after OR: 20638
```

```
# input jets: 269672
# jets after pT: 125745
# jets after eta: 112432
# jets after jvt: 89387
# jets after ORv1: 72037
# jets after ORv2: 71878
```

, 20.7