

**Teruki Kamon**

**From:** "Alfredo Gurrola" <physicsfreddy@gmail.com>  
**To:** "Teruki Kamon" <kamon@physics.tamu.edu>  
**Cc:** "Sinjini Sengupta" <ssinjini@physics.tamu.edu>; "Paul Sheldon" <paul.sheldon@vanderbilt.edu>; "Will Johns" <will.johns@vanderbilt.edu>; "Andrew.Melo@gmail.com" <andrew.melo@gmail.com>; "Andrés G. Delannoy" <andres.delannoy@gmail.com>; "Jieun Kim" <grace@knu.ac.kr>; "Will Flanagan" <will.flanagan@cern.ch>; "Roy Montalvo" <RJMHRJ@physics.tamu.edu>; "Friederike Nowak" <friederike.nowak@desy.de>  
**Sent:** Tuesday, January 24, 2012 7:11 PM  
**Subject:** (SINJINI + ALL) Z-->inv+Jets & Z-->tautau+Jets Estimation FINISHED!

Hi everyone,

I've finalized the Znu+Jets and Ztautau+Jets estimation. I once again attach my slide showing the equation used to estimate both using the fake rate method. Below are the list of numbers used and the predicted rate:

**Znu+Jets Estimation**

NcontrolRegion = 738

BR(Z-->nu) = 0.2 +- 0.0006

BR(Z-->mu) = 0.03366 +- 0.00007

MuTau Trigger Eff = 0.87 +- 0.01

MHT Trigger Eff = 0.982 +- 0.04

MHT>250 efficiency = 6/738 +- sqrt(6)/738

Amu (muon acceptance) = 0.7007 +- 0.004

muon ID efficiency = 0.8678 +- 0.14

f = j-->tau fake rate measurement from control region = 0.016379 +- 0.00192628

***Estimate of Znu+Jets = 0.03 +- 0.02***

**Ztautau+Jets Estimation**

NcontrolRegion = 738

BR(Z-->tautau) = 0.03367 +- 0.0008

BR(tau-->tauhad) = 0.6479 +- 0.0008

BR(Z-->mu) = 0.03366 +- 0.00007

MuTau Trigger Eff = 0.87 +- 0.01

MHT Trigger Eff = 0.982 +- 0.04

MHT>250 efficiency = 6/738 +- sqrt(6)/738

Amu (muon acceptance) = 0.7007 +- 0.004

muon ID efficiency = 0.8678 +- 0.14

Atau (tau acceptance) = 0.50258 +- 0.001

effTauID = 0.55 +- 0.0374

f = j-->tau fake rate measurement from control region = 0.016379 +- 0.00192628

***Estimate of Ztautau+Jets = 0.64 +- 0.43***

Sinjini, can you please add these numbers to the analysis note? Thanks!

Let me know if anyone has any questions or concerns.

Alfredo

On Tue, Jan 24, 2012 at 3:48 PM, Teruki Kamon <[kamon@physics.tamu.edu](mailto:kamon@physics.tamu.edu)> wrote:

Sinjini - thanks for v10.

Will - thanks for reading.

Roy and Will have most of information on Table 7, 8, and 9.

This should be in the next version.

Teruki

----- Original Message ----- From: "Sinjini Sengupta" <[ssinjini@physics.tamu.edu](mailto:ssinjini@physics.tamu.edu)>  
 To: "Alfredo Gurrola" <[physicsfreddy@gmail.com](mailto:physicsfreddy@gmail.com)>  
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 Sent: Tuesday, January 24, 2012 2:01 PM  
 Subject: Re: (SINJINI) Z-->mumu+Jets Control Plots for estimation of Z-->nunu+Jets

Forgot to add, that here is a link to the latest version of the AN as it stands:

[http://people.physics.tamu.edu/ssinjini/SUSY/AN-11-519\\_v11.pdf](http://people.physics.tamu.edu/ssinjini/SUSY/AN-11-519_v11.pdf)

Will, I have not addressed your comments yet. Thanks for the comments.  
 Sinjini

On 01/24/2012 01:01 PM, Alfredo Gurrola wrote:

Sinjini,

Here are the Z-->mumu+Jets control plots (attached) so that they can be added to the analysis note. Let me know when you have an updated AN so that I can edit the AN with the final estimation of Z-->inv+Jets & Z-->tautau+Jets. Since we are going to estimate Z-->tautau+Jets using Z-->mumu+Jets, I think we can turn the current section for Z-->inv+Jets estimation into a joint section for both Z-->inv and Z-->tautau ... What do you think? Can you update this section so that it appropriately describes that we will use Z-->mumu+Jets for both cases?  
 Thanks!

Alfredo