

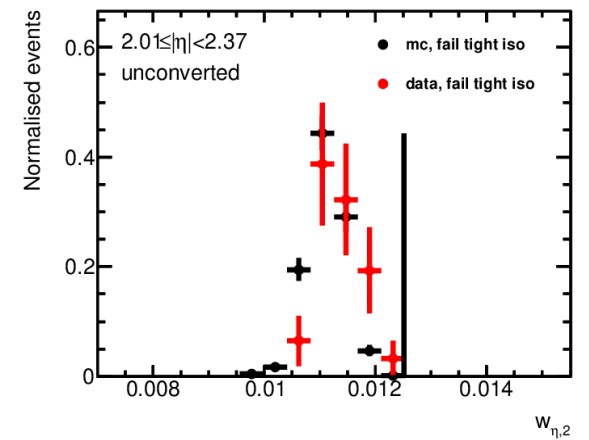
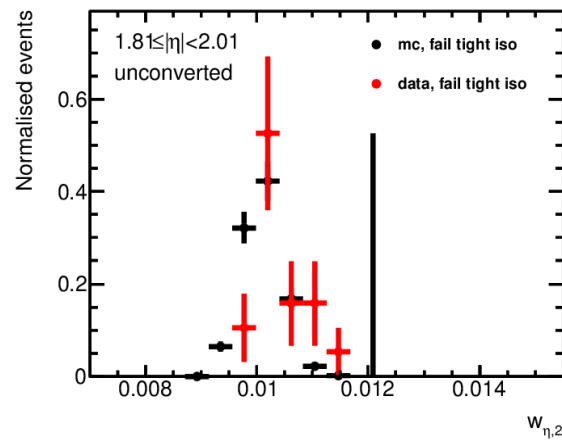
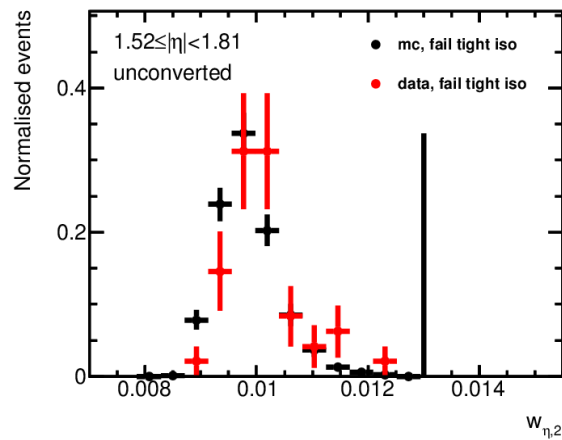
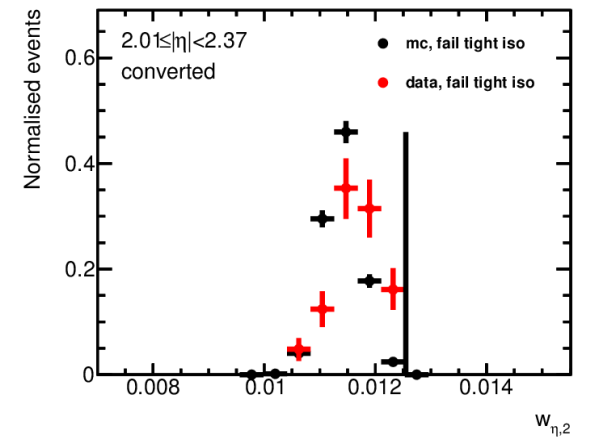
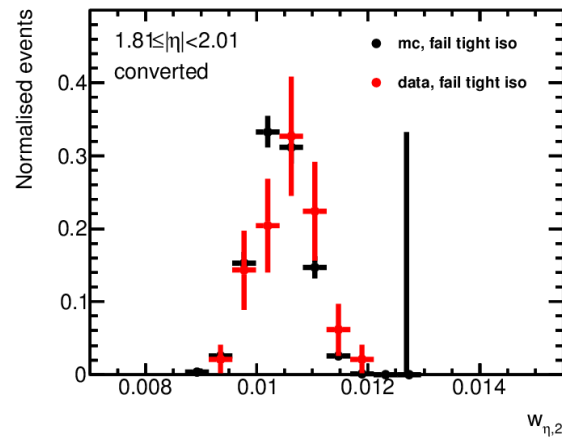
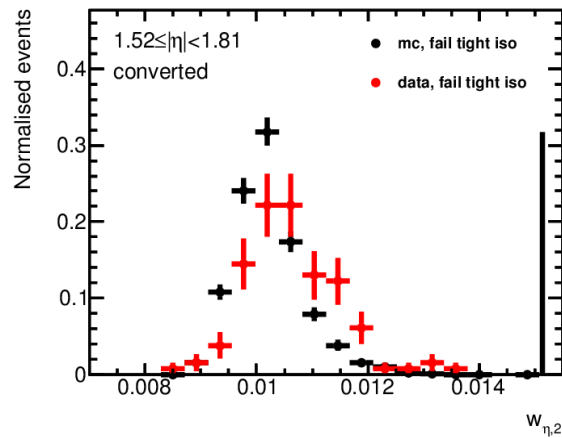
Shower shapes check for grey photons

Alexis Vallier

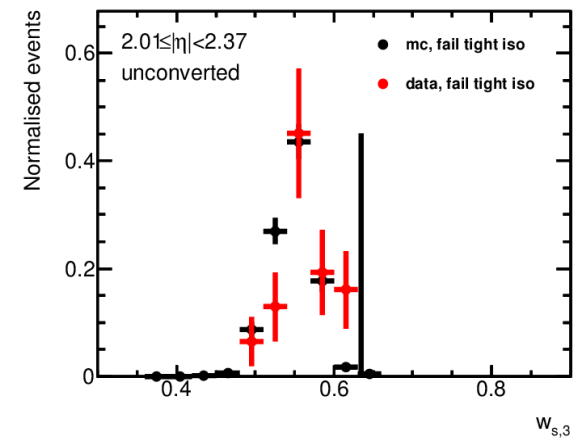
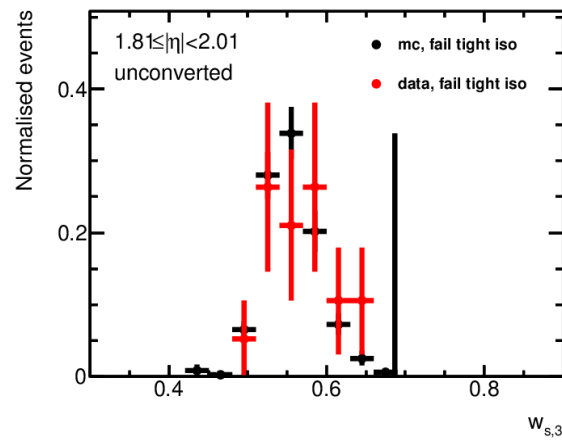
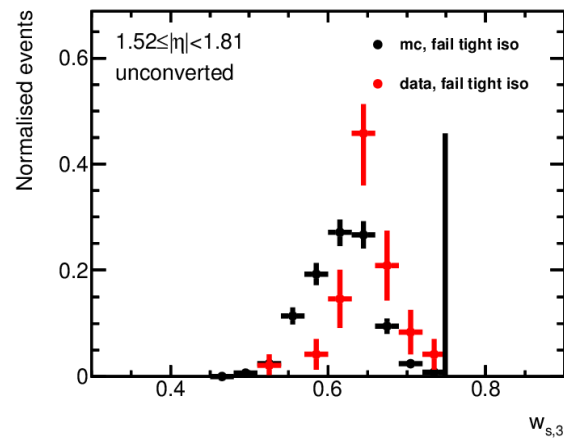
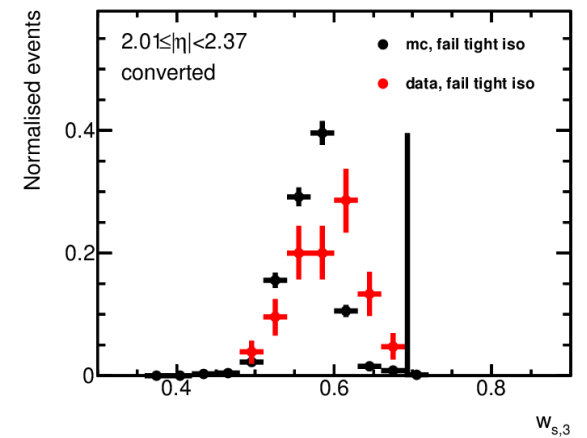
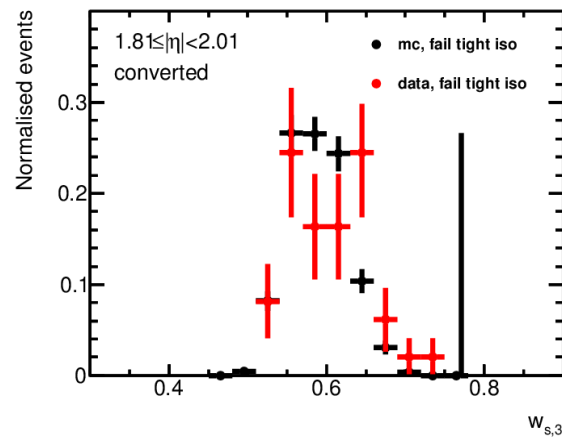
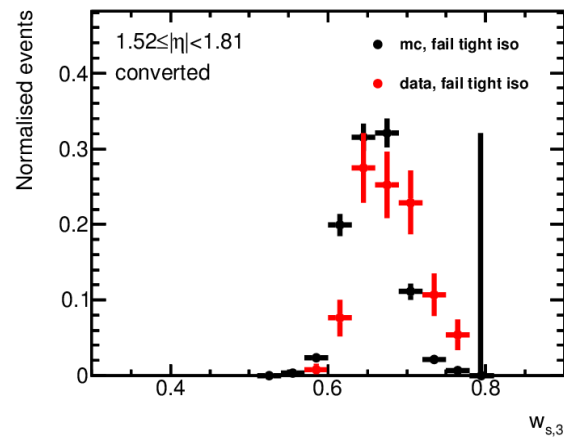
Shower Shape study

- **Look at shower shapes for:**
 - EE/BB events passing Exotic selection.
 - Take only photons failing the tight isolation criteria (grey photons).
 - Purity is rather low ~ 30-40%
 - Plot on the same histo leading and subleading photons.
 - Separate converted/unconverted photons.
 - Use η bins of isEM cuts:
 - EE: [1.52,1.81], [1.81,2.01] and [2.01,2.37]
 - BB: [0.,0.6], [0.6,0.8], [0.8,1.15] and [1.15,1.37]
- **Compare data/MC distributions.**
 - MC : Sherpa gg.
- **MC variables have the Fudge factors applied.**
- **Show here only plots where some isEM tight cuts seem not fully optimal.**

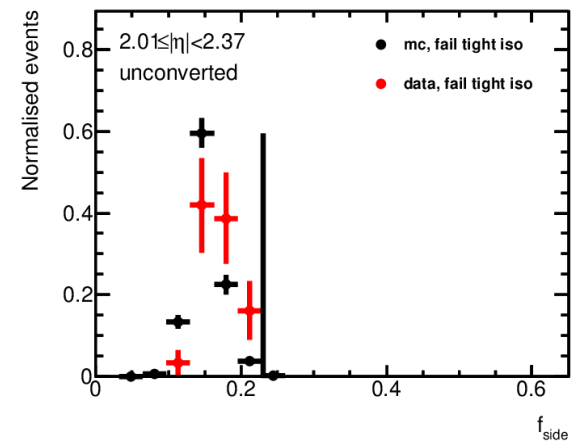
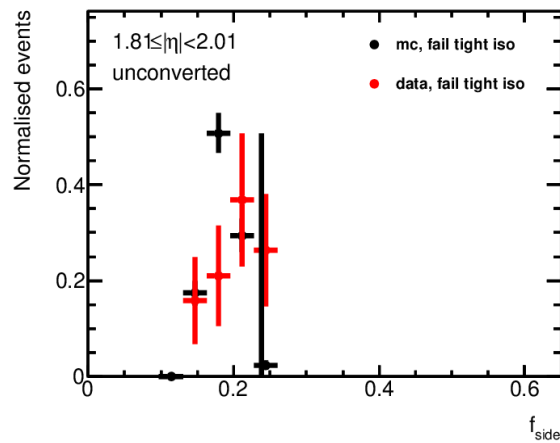
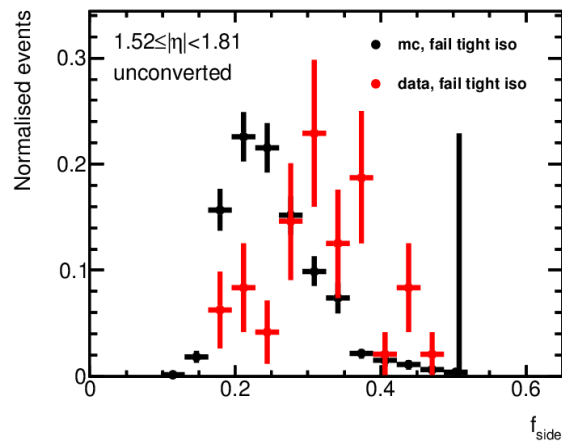
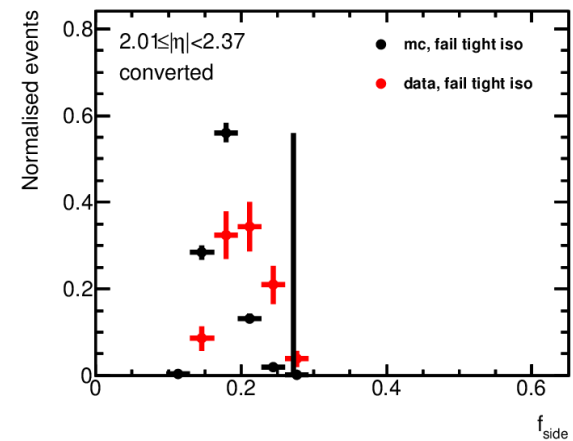
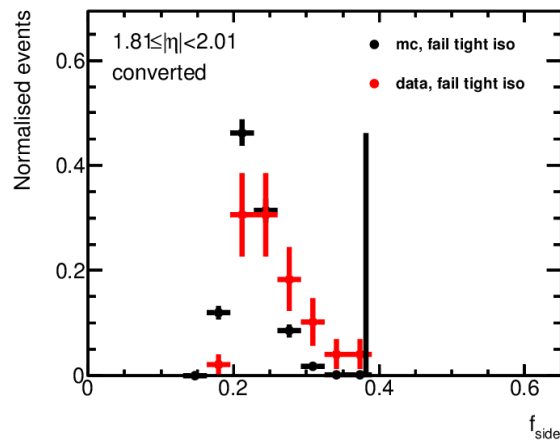
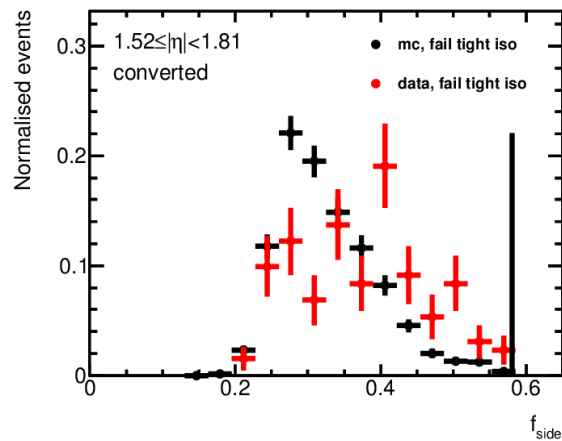
EE grey photons - $w_{\eta 2}$



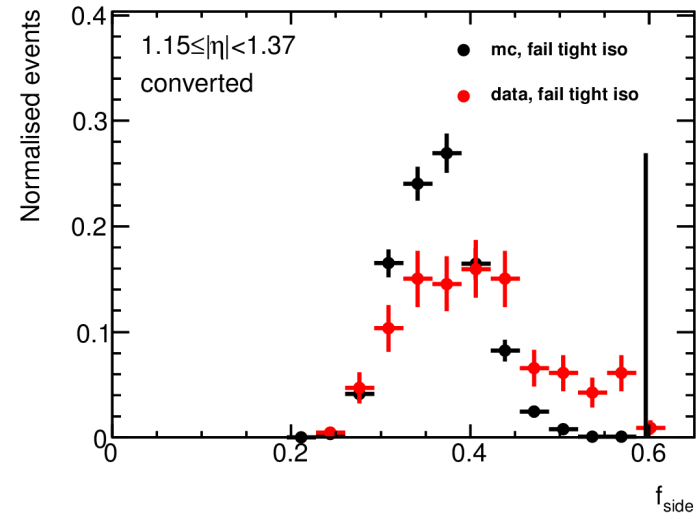
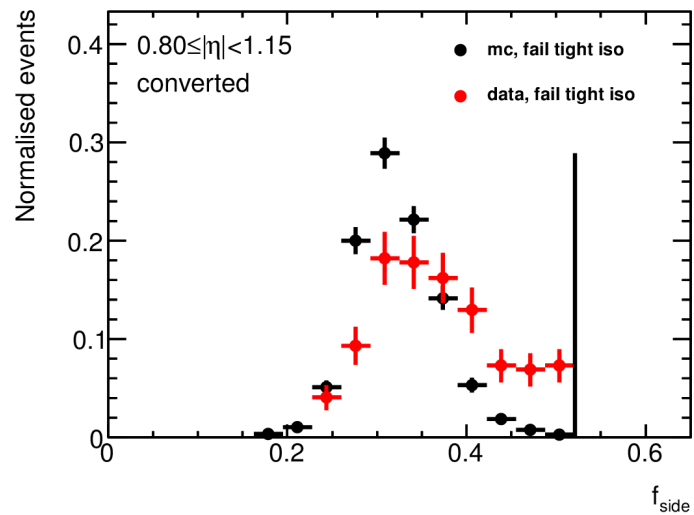
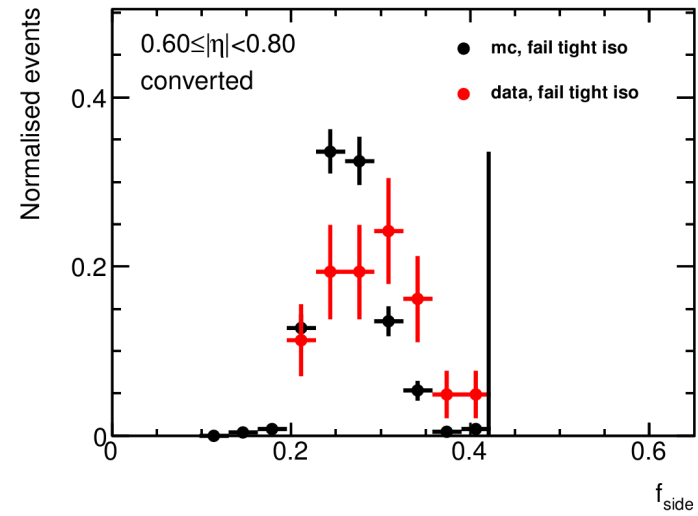
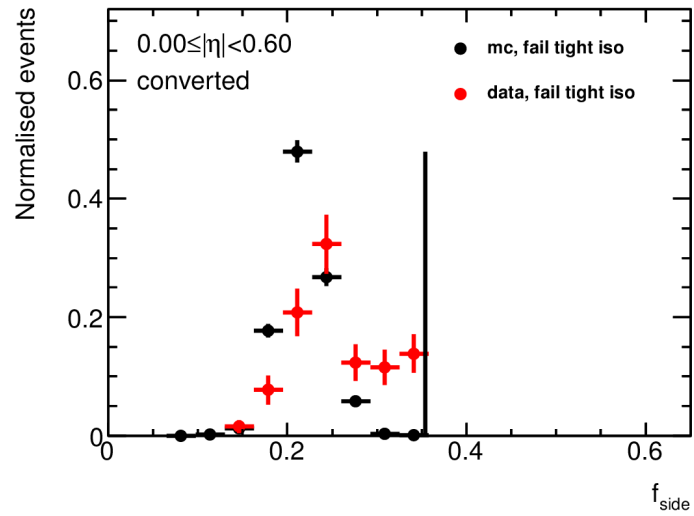
EE grey photons - w_{s3}



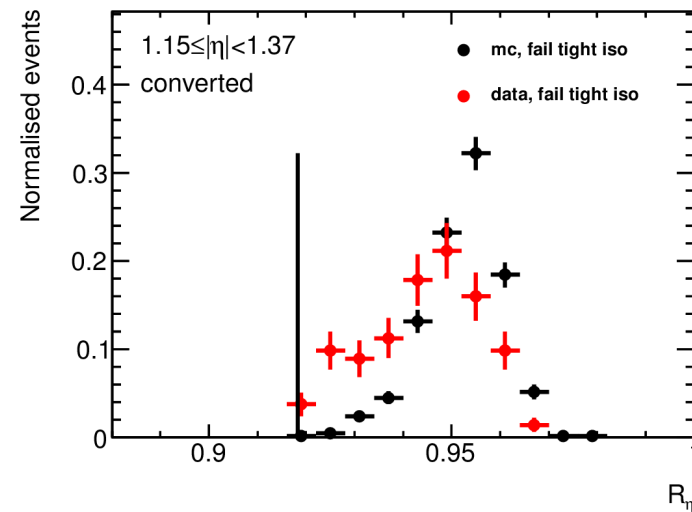
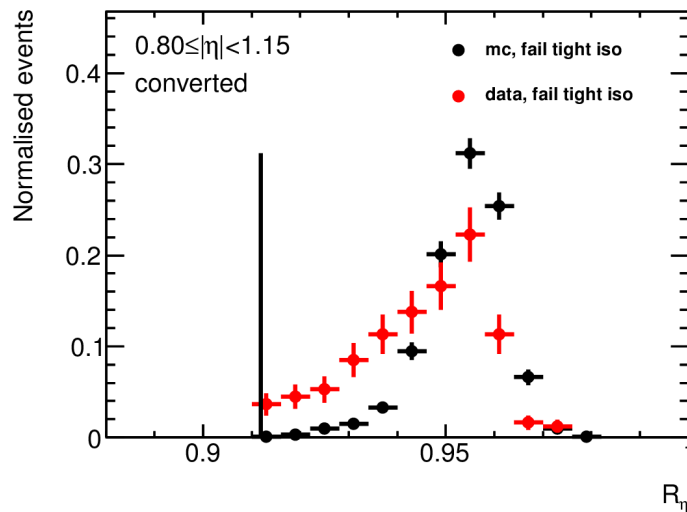
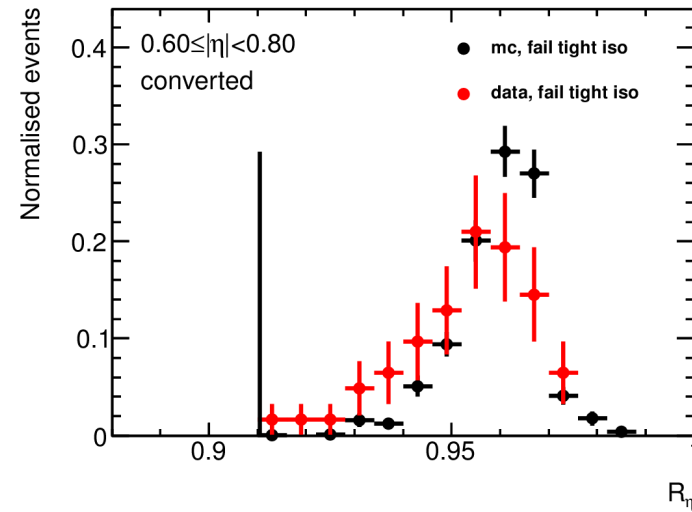
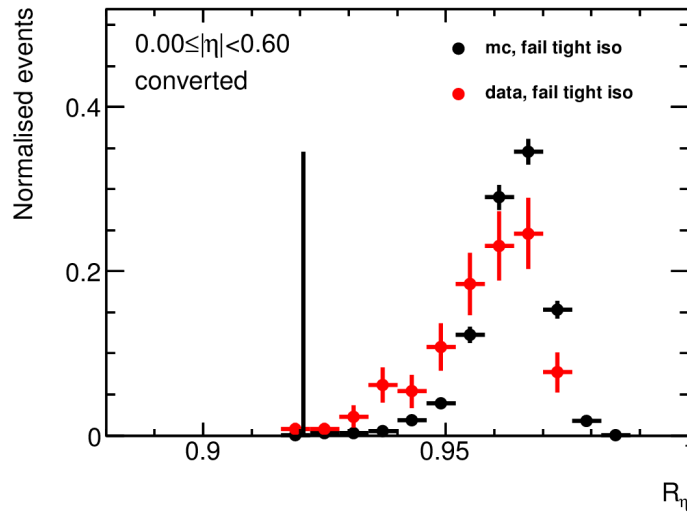
EE grey photons - f_{side}



BB grey photons - f_{side}

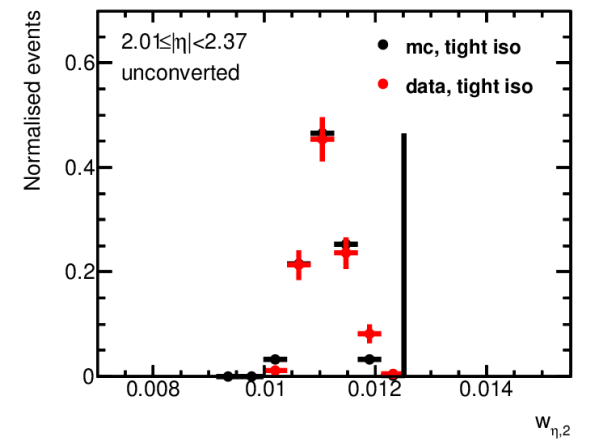
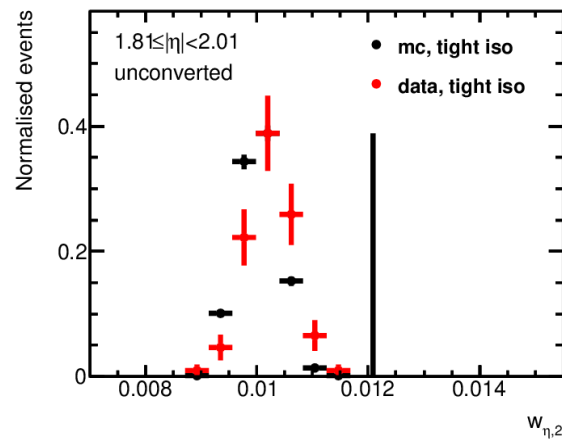
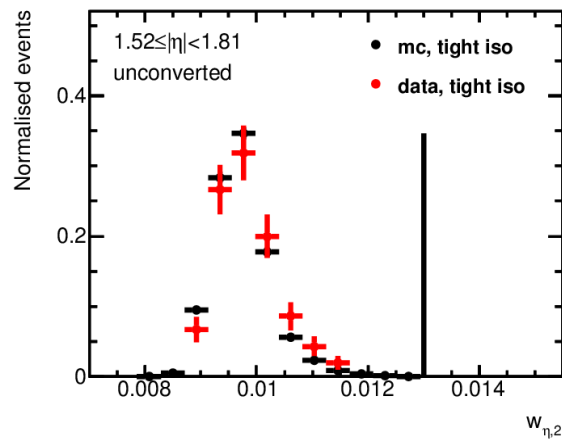
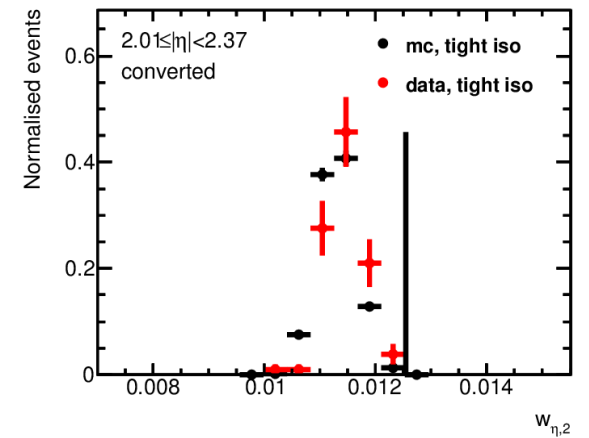
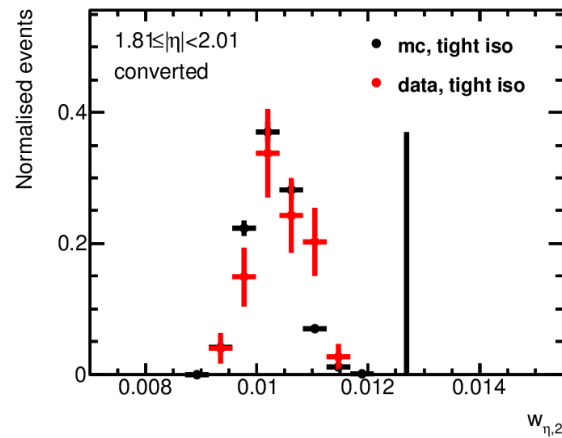
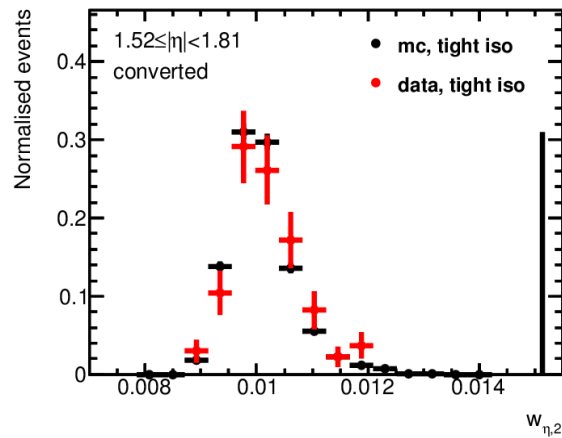


BB grey photons - R_η

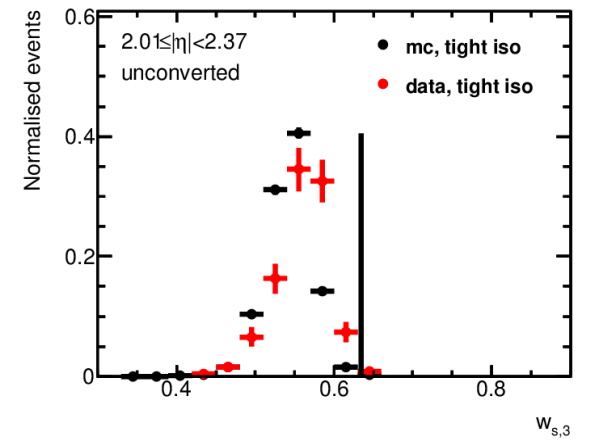
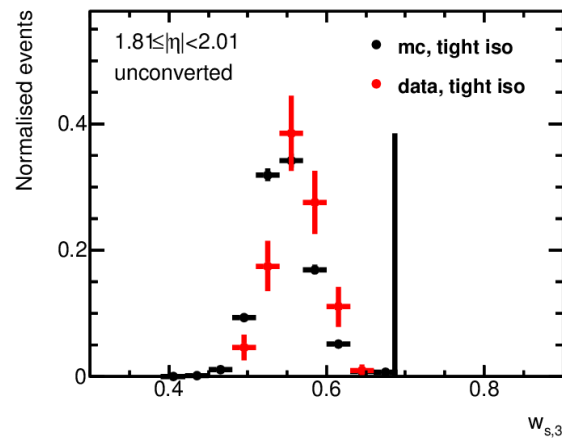
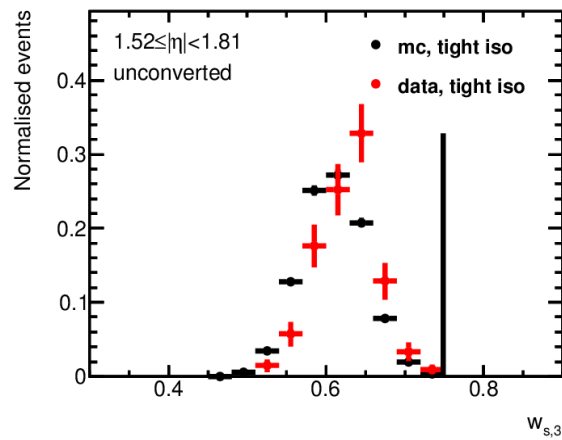
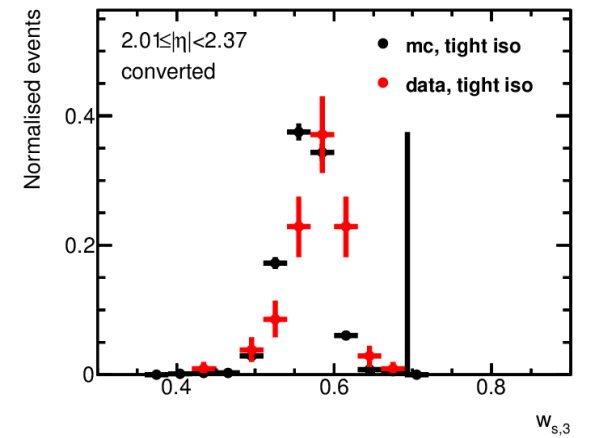
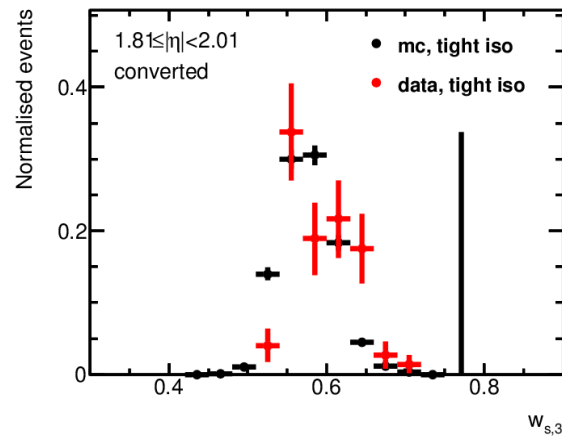
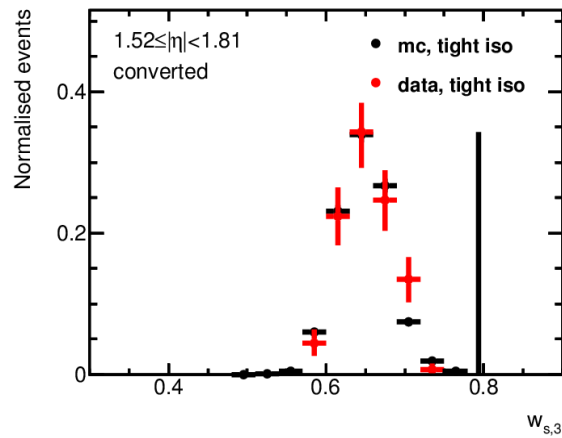


Backup

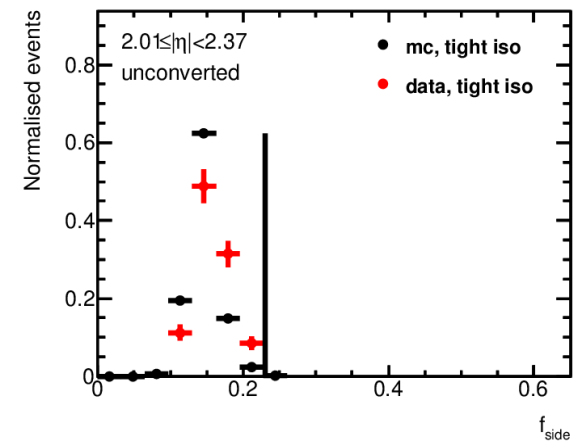
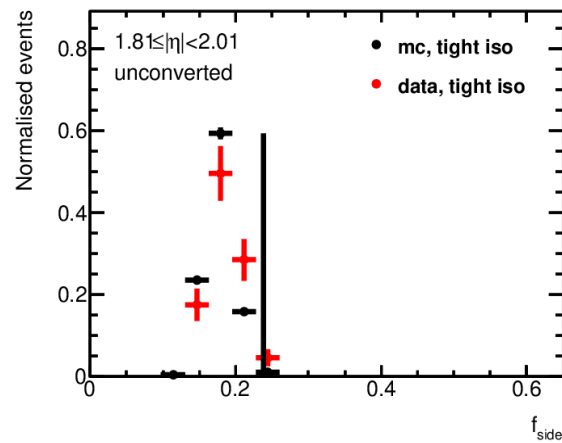
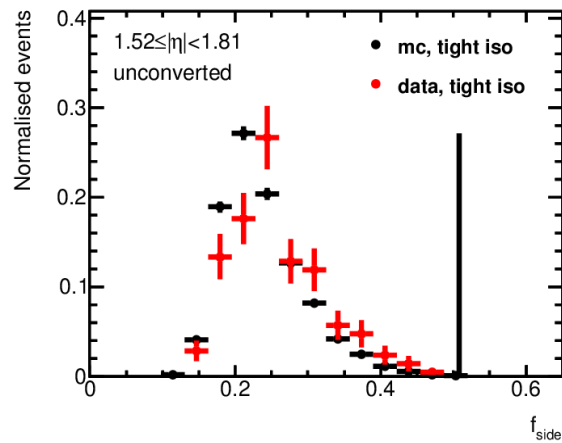
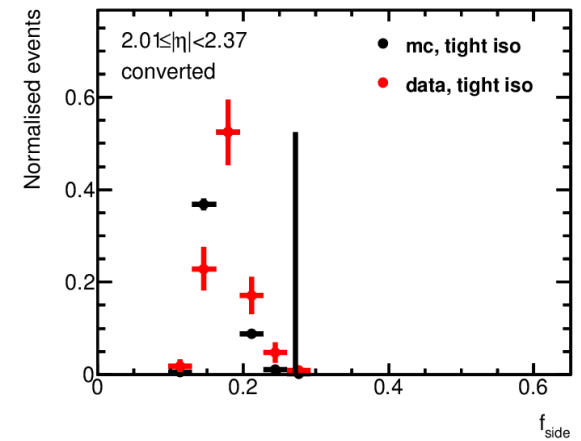
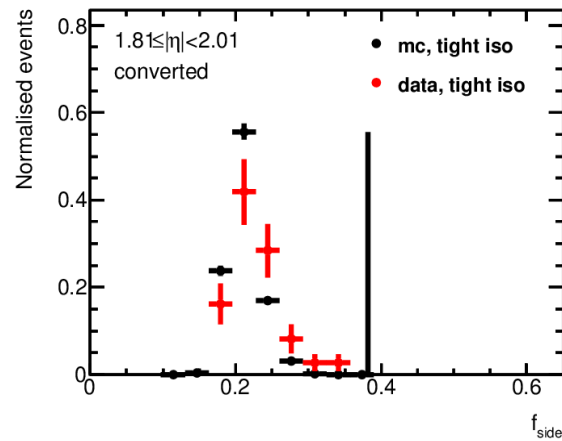
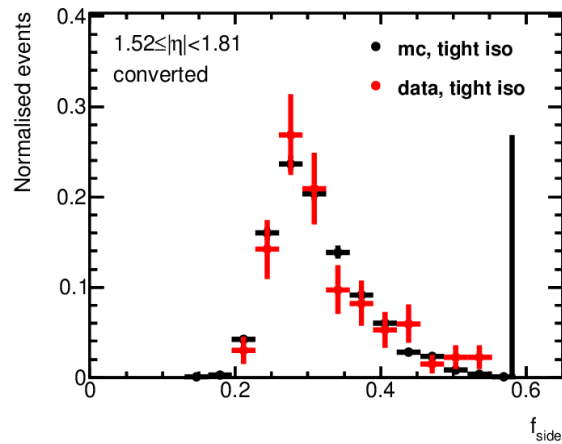
EE tight iso photons - $w_{\eta 2}$



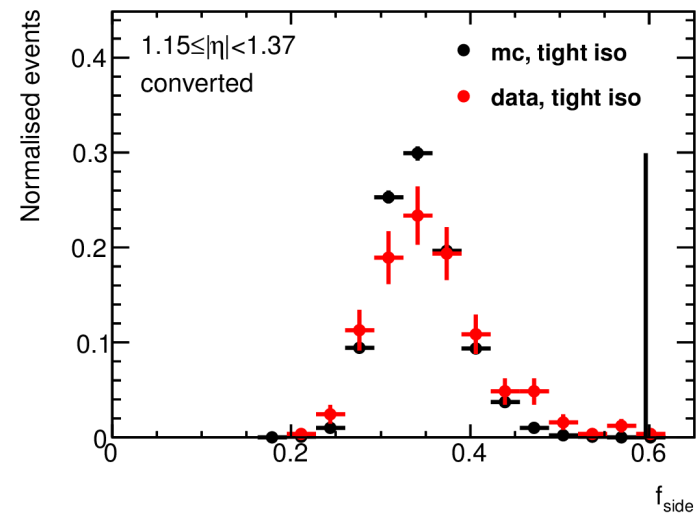
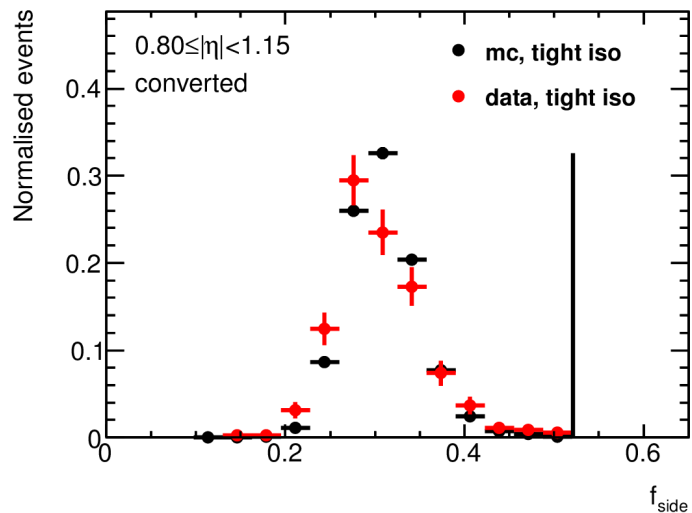
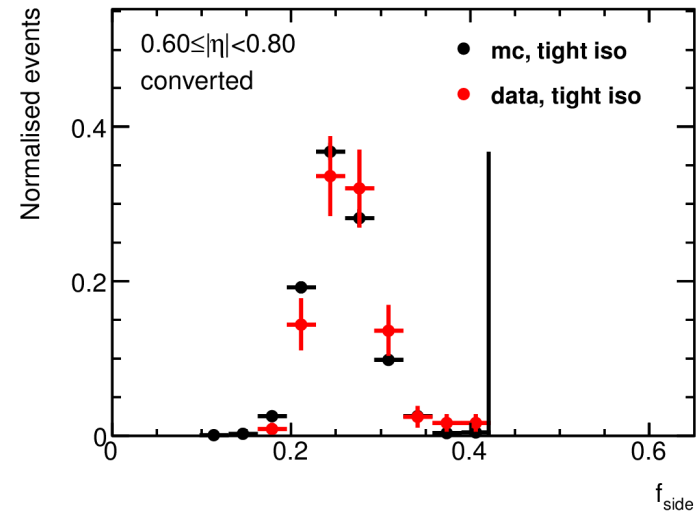
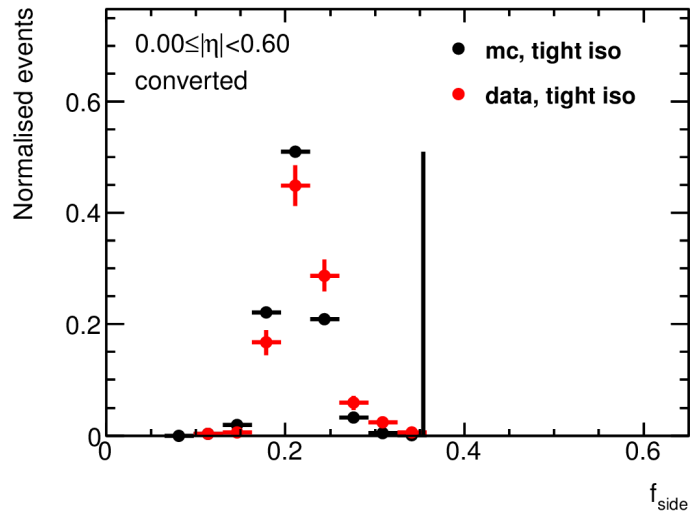
EE tight iso photons - $w_{s,3}$



EE tight iso photons - f_{side}



BB tight iso photons - f_{side}



BB tight iso photons - R_η

