Z+jets angular distributions

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Introduction

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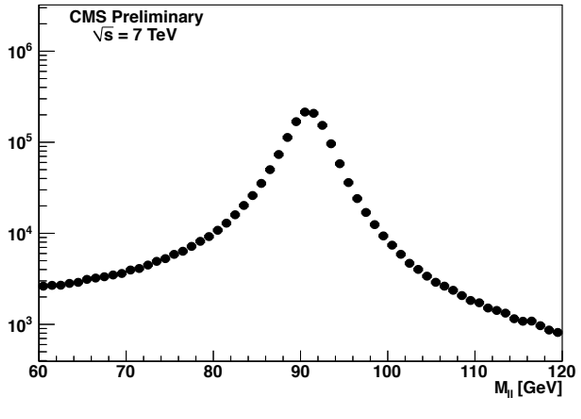
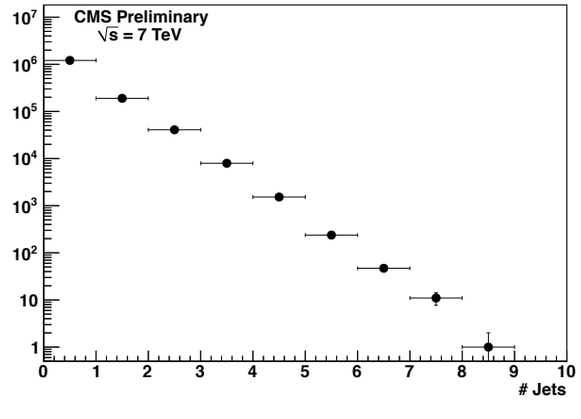
Compare di-lepton Data with theory

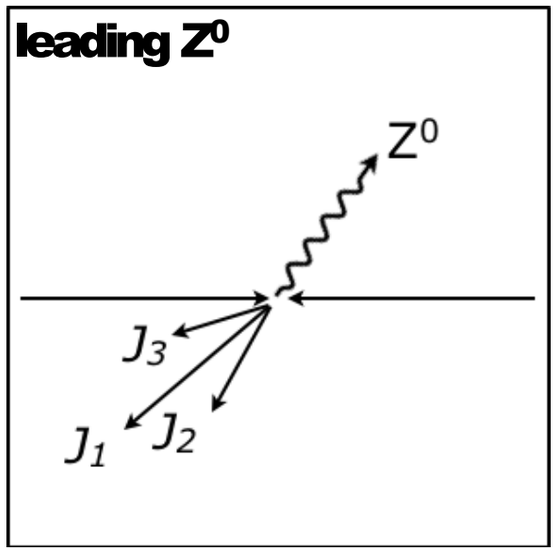
- Impressive spectrum of Z candidates collected by LHC
- Study angular distribution of the Z with respect to hard jets

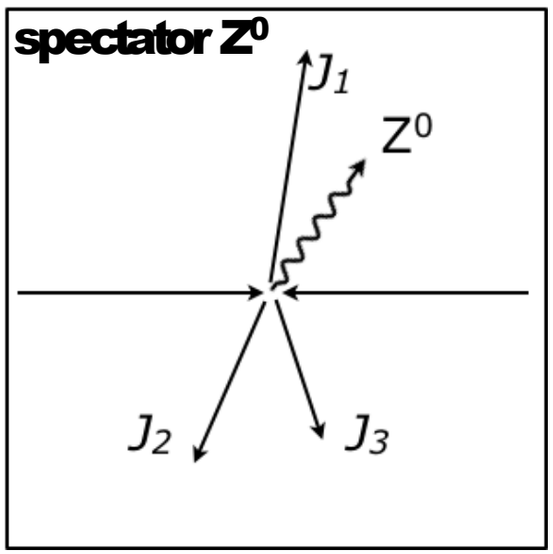




Goals

- Provide input to theory
- Study extreme kinematic selection which are interesting in new physics searches.





CMS Detector

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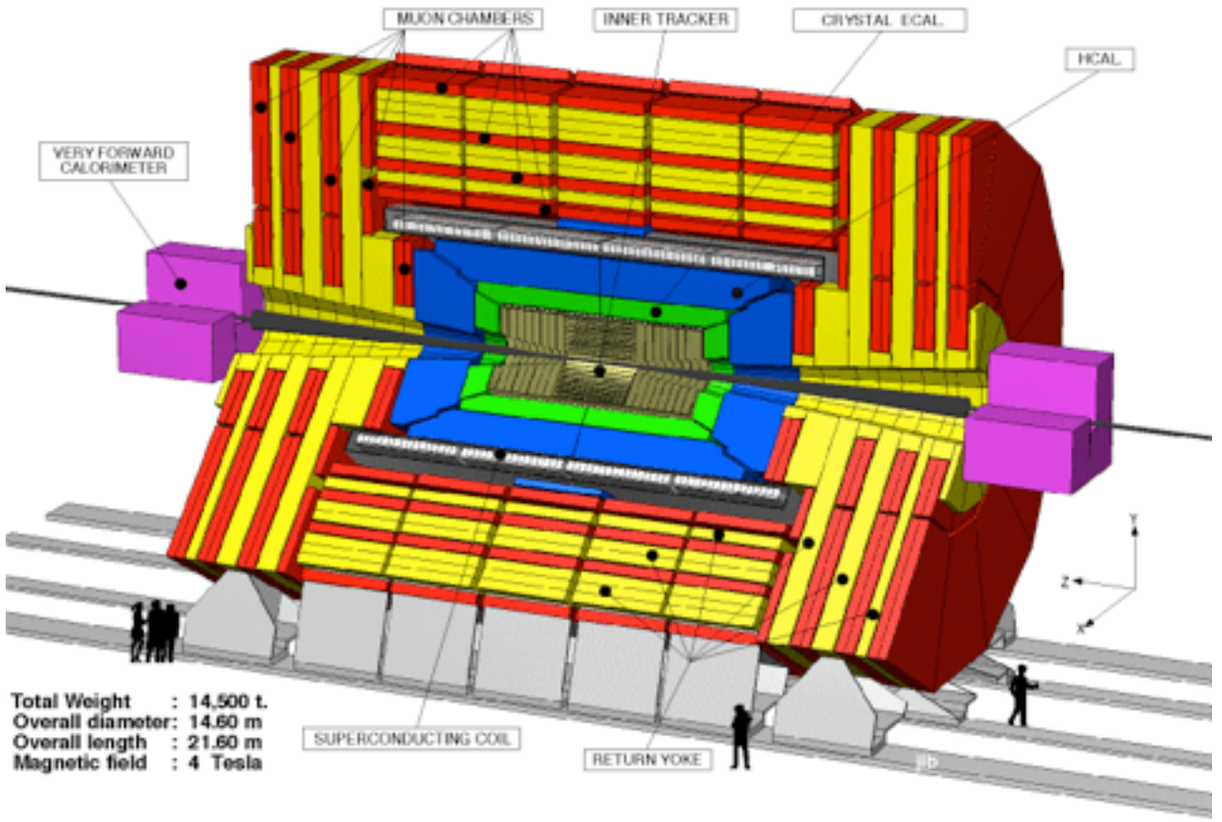

Basic Selection

- |llM − 91 GeV| < 20 GeV
- Jets Pt > 30GeV − |Eta| <2.4
- Leps Pt > 20GeV − |Eta| <2.4
- Delta R > 0.3

dilep mass & jet mult. spectra

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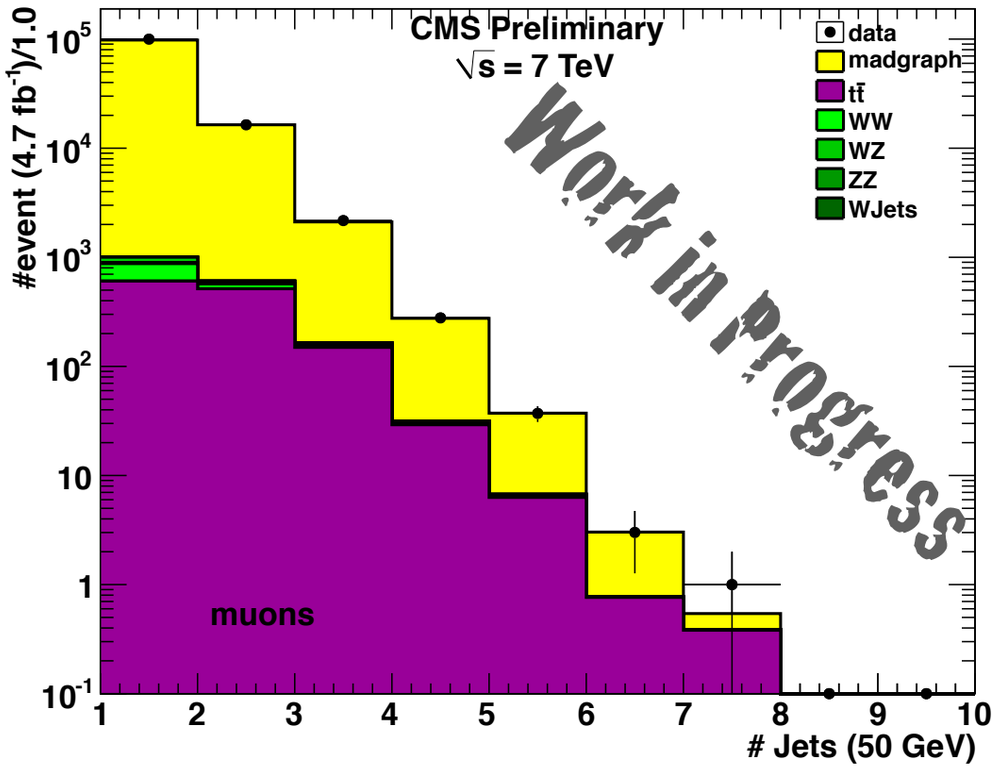
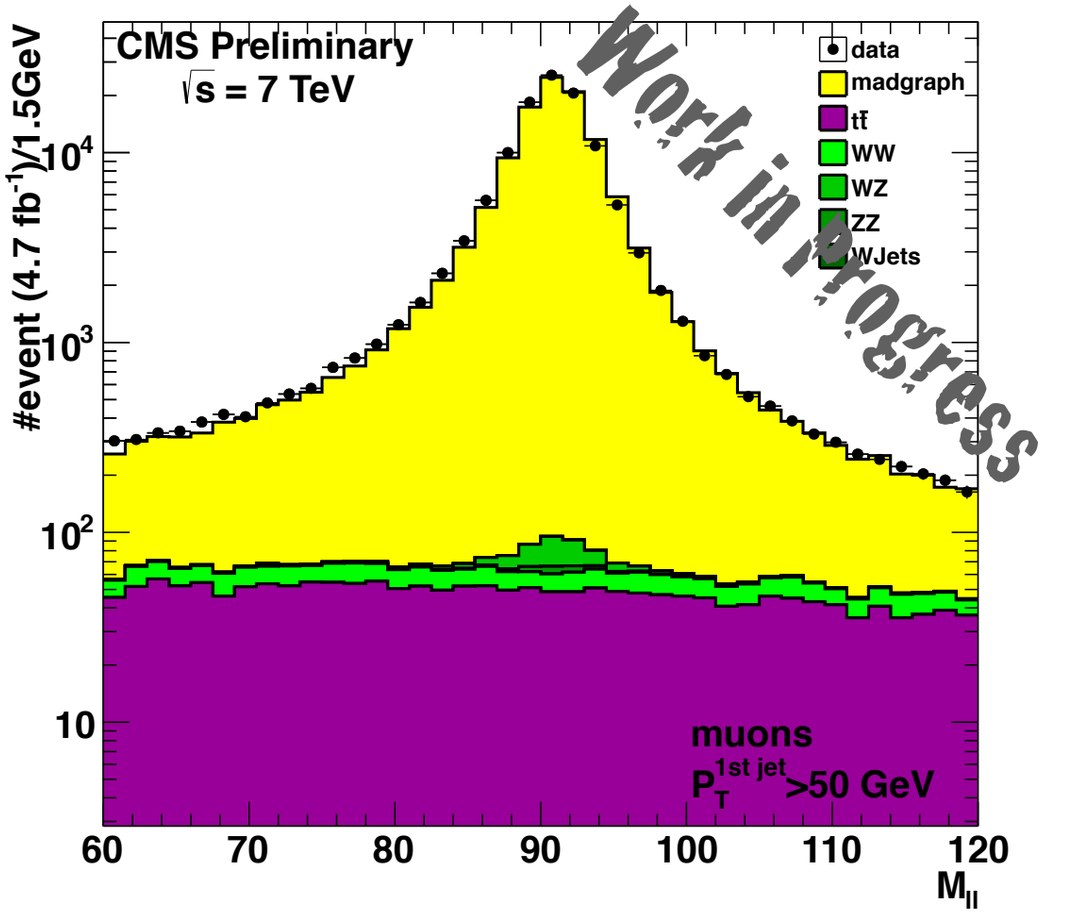
- Control Plots





Angular distributions

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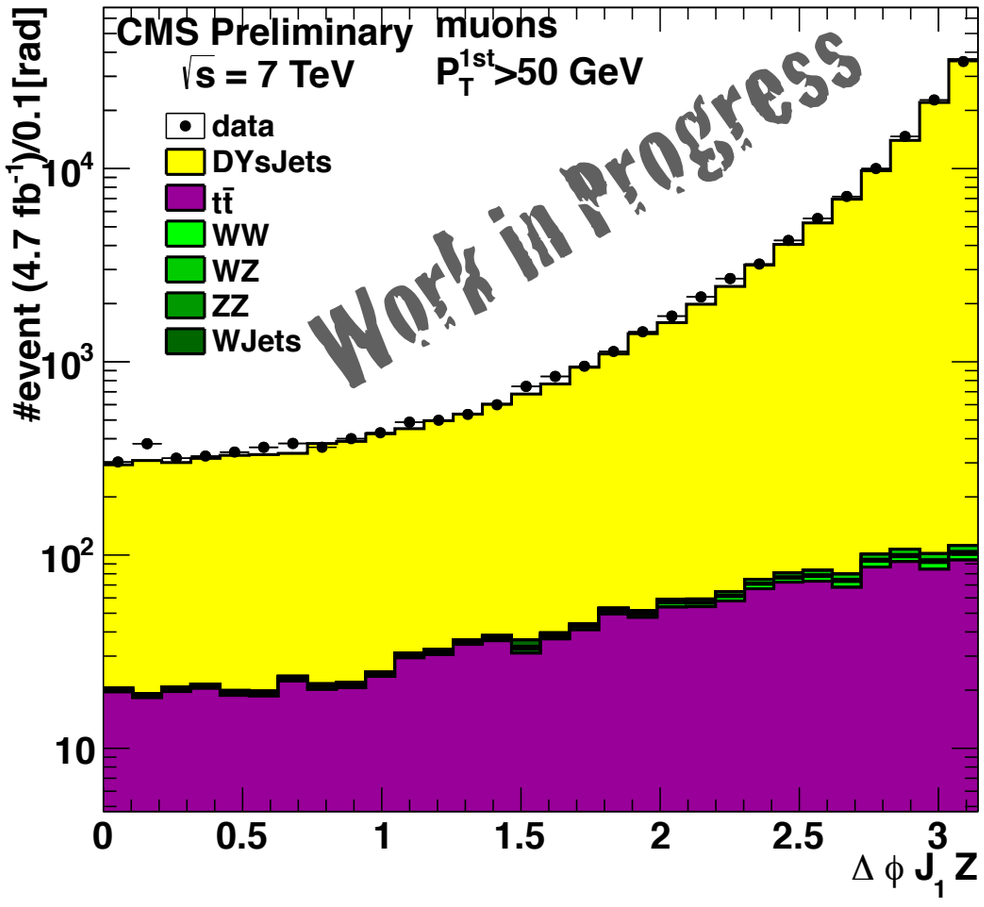

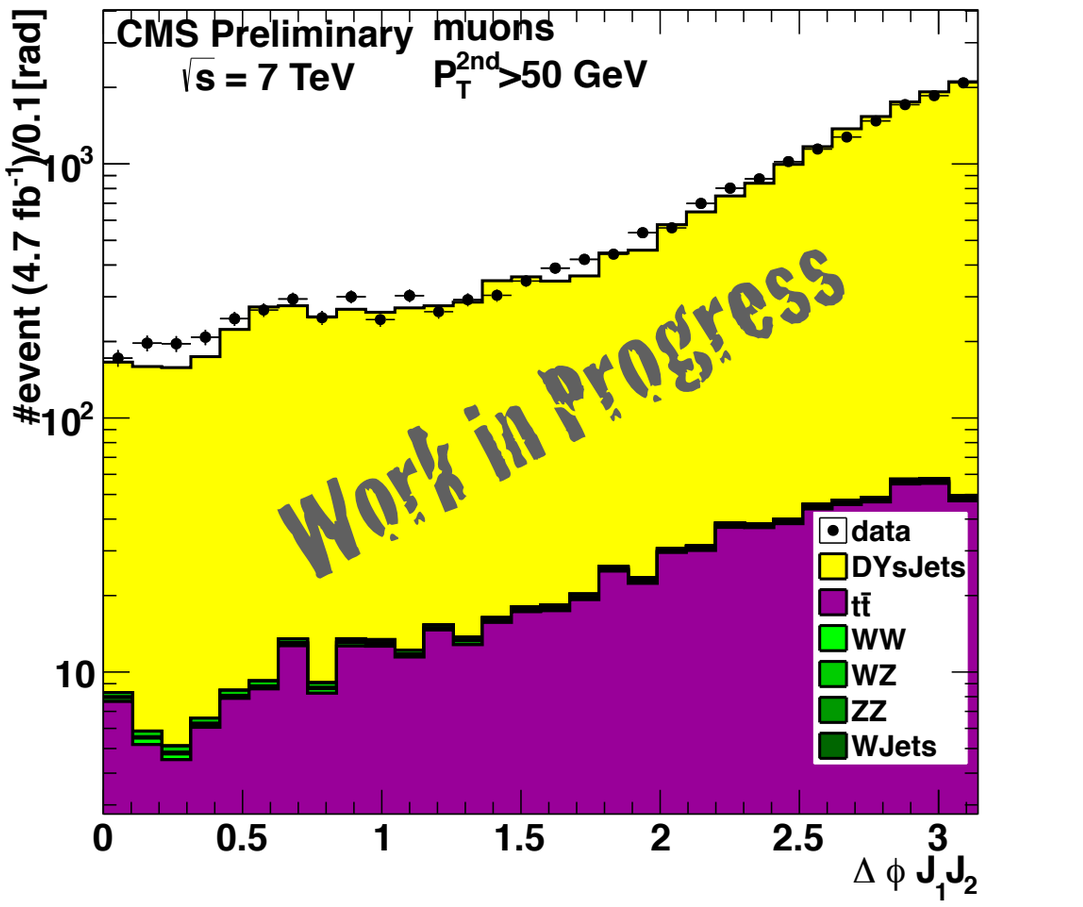

Conclusions

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- We are looking into the angular variables of the Z+jets samples (both muons and electrons)
- We are looking in particular phase space region (Ht, jet multiplicity, ecc...)
- We are looking into different MC generators
- Generators behave as expected: 2to2 generators fail in high multiplicity bins ...
- So far we have found good agreement between data and expectations

Next steps

- Unfolding: comparison at the particle level of the distributinos
- Systematics studies
- ...