Selecting procedure

Method 1

Matched pp ← Choose → Selected PbPb

Method 2

Selected pp ← Quench → Matched PbPb
Illustration in hybrid model study

In hybrid model can look at the *same jet* before and after quenching

Where did A-A jets come from?  
What do p-p jets become?

These questions have qualitatively different answers!
Matching procedure

Unquenched jet particles
(With medium)

Quenched jet particles
(With medium)

Quenched jet particles
(Without medium)
30 GeV threshold on unquenched jets
50 GeV threshold on quenched jets
Selected PbPb  
Matching pp

Without medium

Distribution of $C_1$, without medium
- pp jets $> 50$ GeV
- PbPb jets $> 50$ GeV
- pp jets matching to PbPb

With medium

Distribution of $C_1$, with medium
- pp jets $> 50$ GeV
- PbPb jets $> 50$ GeV
- pp jets matching to PbPb

Selected pp  
Matching PbPb
\[ \Delta R < 0.2 \]

**Method 1**

**Method 2**

\[ \Delta R \geq 0.2 \]
30 GeV threshold on unquenched jets
80 GeV threshold on quenched jets
Without medium

Distribution of $C_1^2$, without medium

- pp jets > 80 GeV
- PbPb jets > 80 GeV
- pp jets matching to PbPb

With medium

Distribution of $C_1^2$, with medium

- pp jets > 80 GeV
- PbPb jets > 80 GeV
- pp jets matching to PbPb

Selected PbPb

Matched pp

Selected pp

Matched PbPb
ΔR < 0.2

ΔR ≥ 0.2
30 GeV threshold on unquenched jets
100 GeV threshold on quenched jets
**Without medium**

- Selected PbPb
- Matched pp

**Distribution of softdrop $\Delta R$, without medium**

- pp jets $>100$ GeV
- PbPb jets $>100$ GeV
- pp jets matching to PbPb

**With medium**

- Selected pp
- Matched PbPb

**Distribution of softdrop $\Delta R$, with medium**

- pp jets $>100$ GeV
- PbPb jets $>100$ GeV
- PbPb jets matching to pp
\[ \Delta R < 0.2 \]

**Without medium**

**Method 1**

**Method 2**

**With medium**

\[ \Delta R \geq 0.2 \]
10 GeV threshold on unquenched jets

50 GeV threshold on quenched jets
Selected PbPb

Matched pp

Without medium

Distribution of softdrop $\Delta R$, without medium
- pp jets > 50 GeV
- PbPb jets > 50 GeV
- pp jets matching to PbPb

With medium

Distribution of softdrop $\Delta R$, with medium
- pp jets > 50 GeV
- PbPb jets > 50 GeV
- pp jets matching to PbPb

Selected pp

Matched PbPb
$\Delta R < 0.2$

- Without medium
  - Method 1
  - Method 2

- With medium
  - Fractional energy loss distributions, quenched $\Delta R < 0.2$, without medium
  - Fractional energy loss distributions, quenched $\Delta R < 0.2$, with medium

$\Delta R \geq 0.2$

- Without medium
  - Fractional energy loss distributions, quenched $\Delta R \geq 0.2$, without medium

- With medium
  - Fractional energy loss distributions, quenched $\Delta R \geq 0.2$, with medium
10 GeV threshold on unquenched jets

80 GeV threshold on quenched jets
Selected PbPb

Matched pp

Without medium

Selected PbPb

Matched pp

With medium
Without medium

Selected PbPb

Matched pp

With medium

Selected pp

Matched PbPb
\[ \Delta R \geq 0.2 \]

**Without medium**

**With medium**

Method 1

Method 2
10 GeV threshold on unquenched jets
100 GeV threshold on quenched jets
Without medium

Selected PbPb

Matched pp

With medium

Selected pp

Matched PbPb
Without medium

Distribution of $C_1^p$, without medium

- pp jets >100GeV
- PbPb jets >100GeV
- pp jets matching to PbPb

With medium

Distribution of $C_1^p$, with medium

- pp jets >100GeV
- PbPb jets >100GeV
- pp jets matching to PbPb

Selected PbPb

↑

Matched pp

Selected pp

↓

Matched PbPb
$\Delta R < 0.2$

Without medium

Fractional energy loss distributions, quenched $\Delta R < 0.2$, without medium

With medium

Fractional energy loss distributions, quenched $\Delta R < 0.2$, with medium

$\Delta R \geq 0.2$

Without medium

Fractional energy loss distributions, quenched $\Delta R \geq 0.2$, without medium

With medium

Fractional energy loss distributions, quenched $\Delta R \geq 0.2$, with medium

Method 1

Method 2