

# Status of the TPC Pattern-Recognition

Example with real data from recent FOPI beam test at GSI

Johannes Rauch, 05.05.2011

# Digis

Go to event:  Redraw Event

Hide Viewer 1 Actions

Draw Options

- Instant redraw after changing parameter
- Draw TPC
- Draw Digis from DigiBranch
- Draw Digis from Clusters
- Draw Clusters
- Draw Cluster Errors
- Draw Riemann Tracks
- Draw Fit-Markers

Clustering

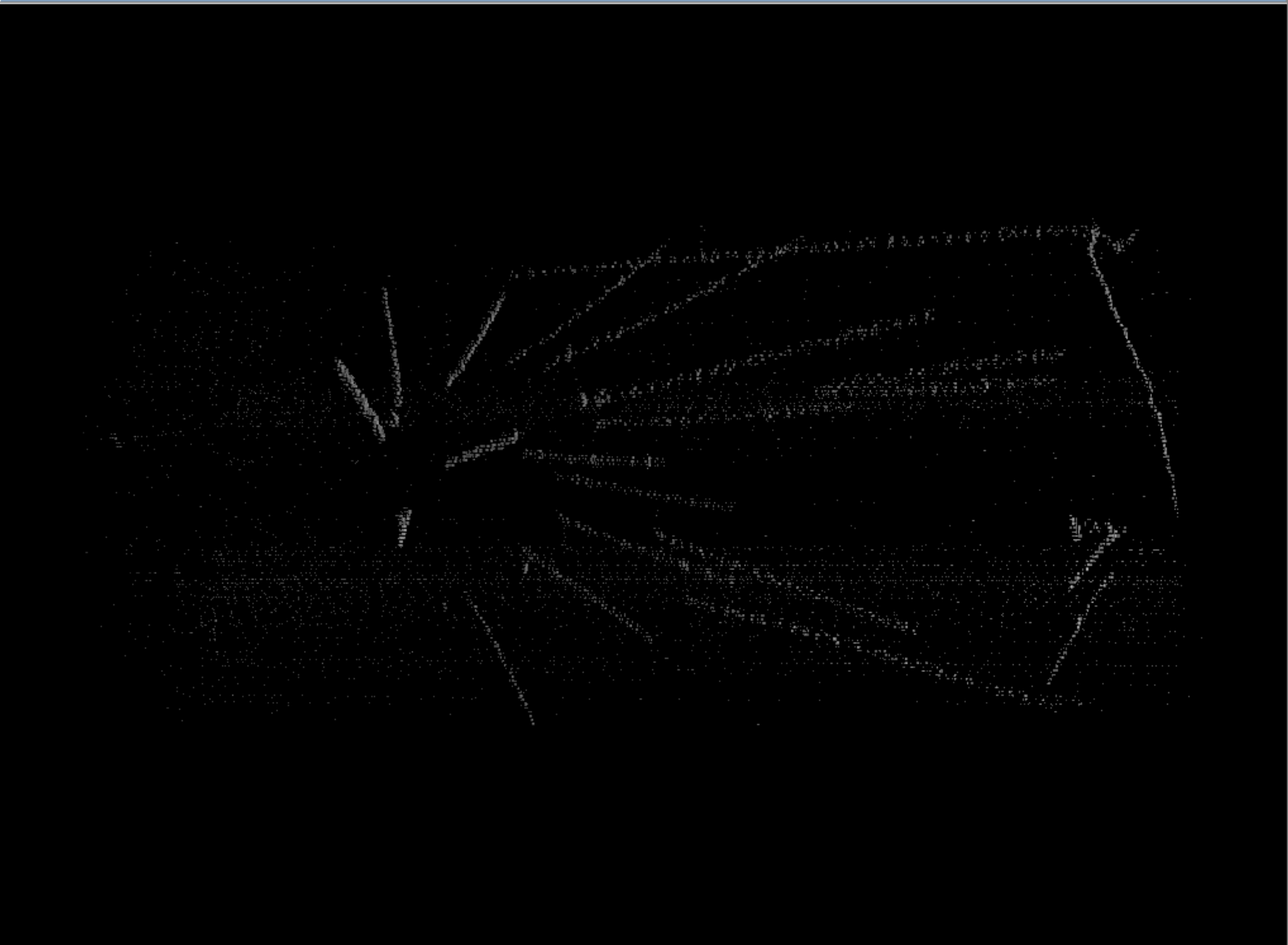
- Run Clustering
- Mode
- Timeslice
- Timecut
- Single Digi-Cluster Amp cut
- Cluster Amp cut
- Electrons per ADC count
- Error Normalization Constant
- Use Simple Clustering
- Timeslice for Simple Clustering

Pattern Recognition

- Run Pattern Recognition
- Do PR up to Hit:  Redraw Ev
- Use sorting of riemann tracker
- min points for sz-/plane-fit
- Plane cut
- Riemann proximity cut
- sz cut
- Proximity cut
- Do TrackMerging
- TT Proximity cut
- TT plane cut
- TT sz cut
- Clean Tracks before \_after merging
- RiemannScale

Fitting

- Run Kalman
- Number of iterations for the Kalman



Command

Command (local):

# Clusters

Go to event:  Redraw Event

Viewer 1 Actions

Draw Options

- Instant redraw after changing parameter
- Draw TPC
- Draw Digis from DigiBranch
- Draw Digis from Clusters
- Draw Clusters
- Draw Cluster Errors
- Draw Riemann Tracks
- Draw Fit-Markers

Clustering

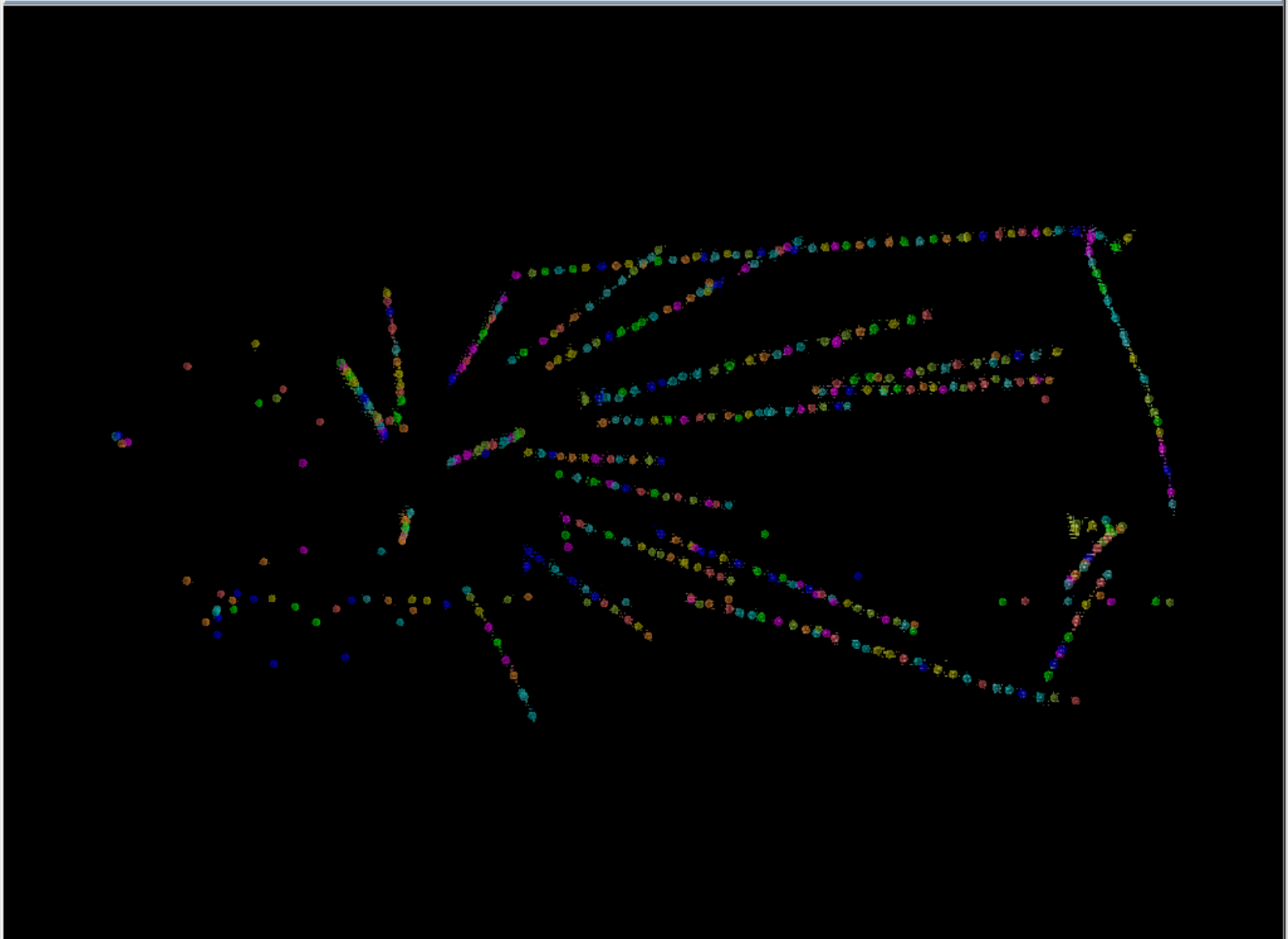
- Run Clustering
- Mode
- Timeslice
- Timecut
- Single Digi-Cluster Amp cut
- Cluster Amp cut
- Electrons per ADC count
- Error Normalization Constant
- Use Simple Clustering
- Timeslice for Simple Clustering

Pattern Recognition

- Run Pattern Recognition
- Do PR up to Hit:  Redraw Ev
- Use sorting of riemann tracker
- min points for sz-/plane-fit
- Plane cut
- Riemann proximity cut
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- Do TrackMerging
- TT Proximity cut
- TT plane cut
- TT sz cut
- Clean Tracks before \_after merging
- RiemannScale

Fitting

- Run Kalman
- Number of iterations for the Kalman



Command

Command (local):

# Riemann Tracks from PR

Go to event: 2

Hide Viewer 1

**Draw Options**

- Instant redraw after changing parameter
- Draw TPC
- Draw Digis from DigiBranch
- Draw Digis from Clusters
- Draw Clusters
- Draw Cluster Errors
- Draw Riemann Tracks
- Draw Fit-Markers

**Clustering**

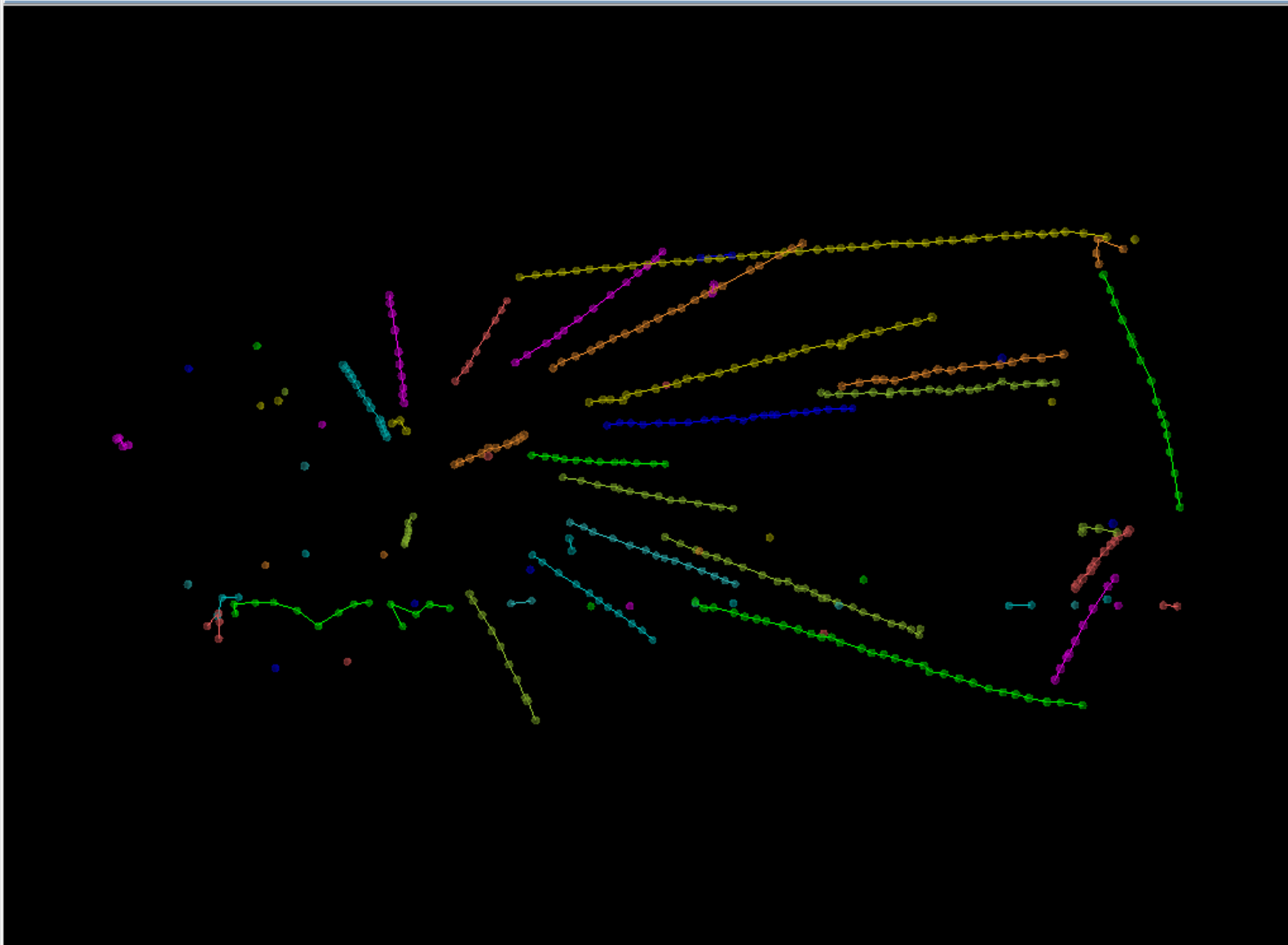
- Run Clustering
- 2 Mode
- 3 Timeslice
- 2 Timecut
- 15 Single Digi-Cluster Amp cut
- 9.000 Cluster Amp cut
- 600 Electrons per ADC count
- 300 Error Normalization Constant
- Use Simple Clustering
- 4 Timeslice for Simple Clustering

**Pattern Recognition**

- Run Pattern Recognition
- Do PR up to Hit: 1000000
- Use sorting of riemann tracker
- 4 min points for sz-/plane-fit
- 0.0400 Planecut
- 0.1000 Riemann proximity cut
- 0.200 sz cut
- 1.900 Proximity cut
- Do TrackMerging
- 2.200 TT Proximity cut
- 0.0250 TT plane cut
- 0.330 TT sz cut
- Clean Tracks before \_after merging
- 8.600 RiemannScale

**Fitting**

- Run Kalman
- 3 Number of iterations for the Kalman



Command

Command (local):

# Prefit

Go to event:  Redraw Event

Hide Viewer 1 Actions

**Draw Options**

- Instant redraw after changing parameter
- Draw TPC
- Draw Digis from DigiBranch
- Draw Digis from Clusters
- Draw Clusters
- Draw Cluster Errors
- Draw Riemann Tracks
- Draw Fit-Markers

**Clustering**

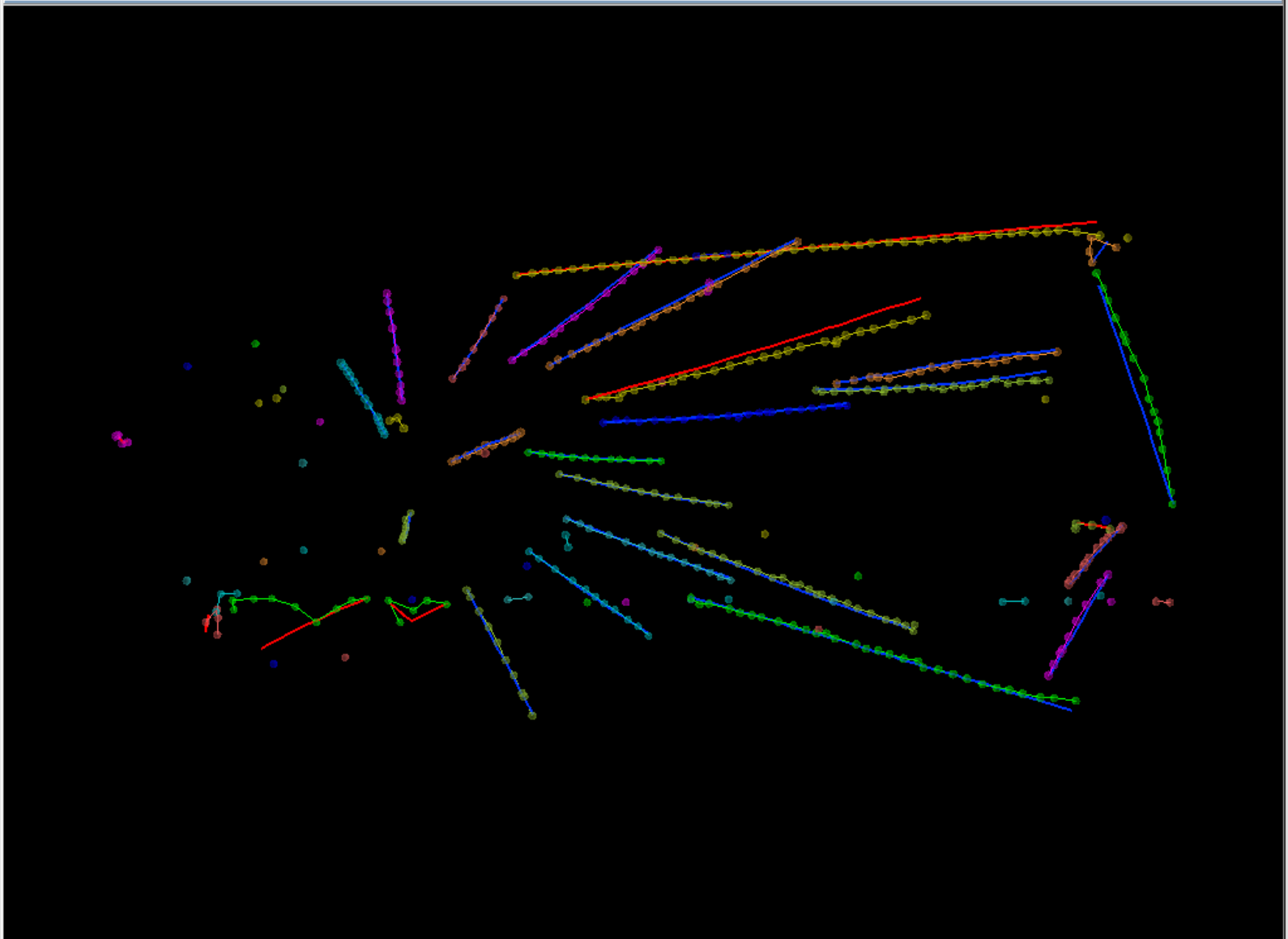
- Run Clustering
- Mode
- Timeslice
- Timecut
- Single Digi-Cluster Amp cut
- Cluster Amp cut
- Electrons per ADC count
- Error Normalization Constant
- Use Simple Clustering
- Timeslice for Simple Clustering

**Pattern Recognition**

- Run Pattern Recognition
- Do PR up to Hit:  Redraw Ev
- Use sorting of riemann tracker
- min points for sz-/plane-fit
- Plane cut
- Riemann proximity cut
- sz cut
- Proximity cut
- Do TrackMerging
- TT Proximity cut
- TT plane cut
- TT sz cut
- Clean Tracks before \_after merging
- RiemannScale

**Fitting**

- Run Kalman
- Number of iterations for the Kalman



Command

Command (local):

# Fitted Tracks

Go to event: 2  Redraw Event

Hide Viewer 1 Actions

Draw Options

- Instant redraw after changing parameter
- Draw TPC
- Draw Digis from DigiBranch
- Draw Digis from Clusters
- Draw Clusters
- Draw Cluster Errors
- Draw Riemann Tracks
- Draw Fit-Markers

Clustering

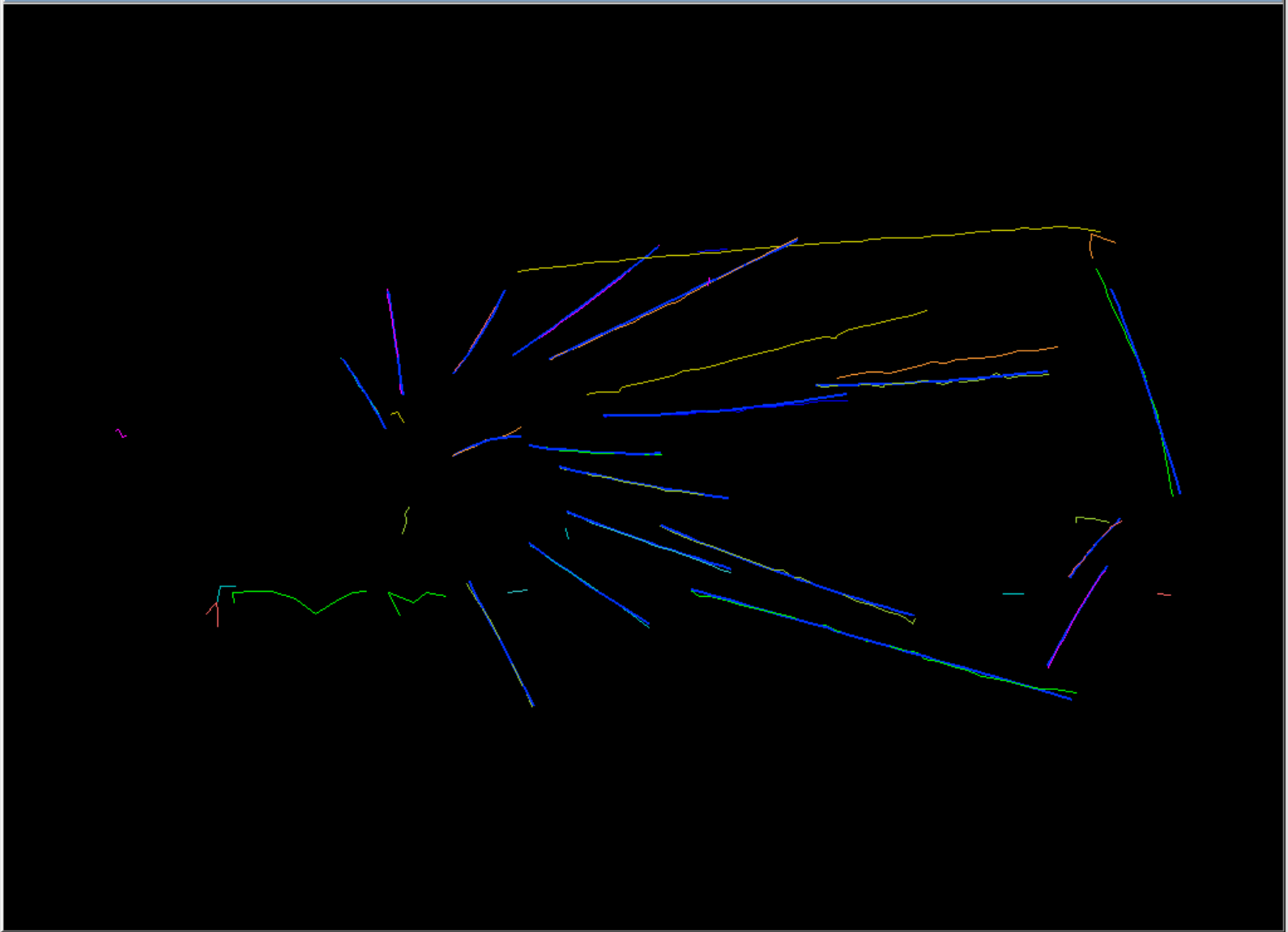
- Run Clustering
- 2 Mode
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- 2 Timecut
- 15 Single Digi-Cluster Amp cut
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Pattern Recognition

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- 8.600 RiemannScale

Fitting

- Run Kalman
- 2 Number of iterations for the Kalman



Command

Command (local):  
Command (local):

# Fitted Tracks

Go to event:

Viewer 1 Actions

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- Draw Fit-Markers

**Clustering**

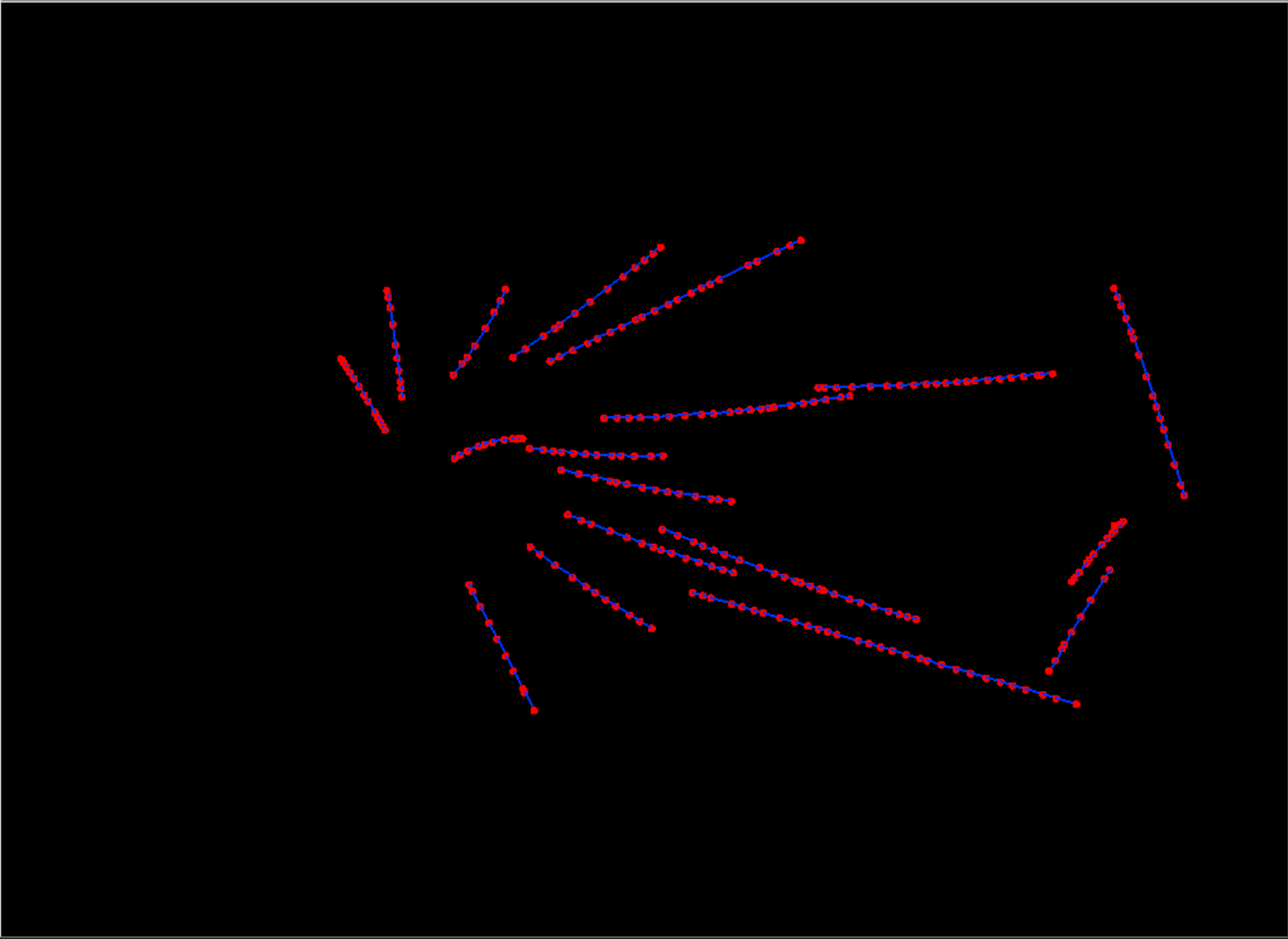
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**Fitting**

- Run Kalman
- Number of iterations for the Kalman



Command

Command (local):

# Residuals

