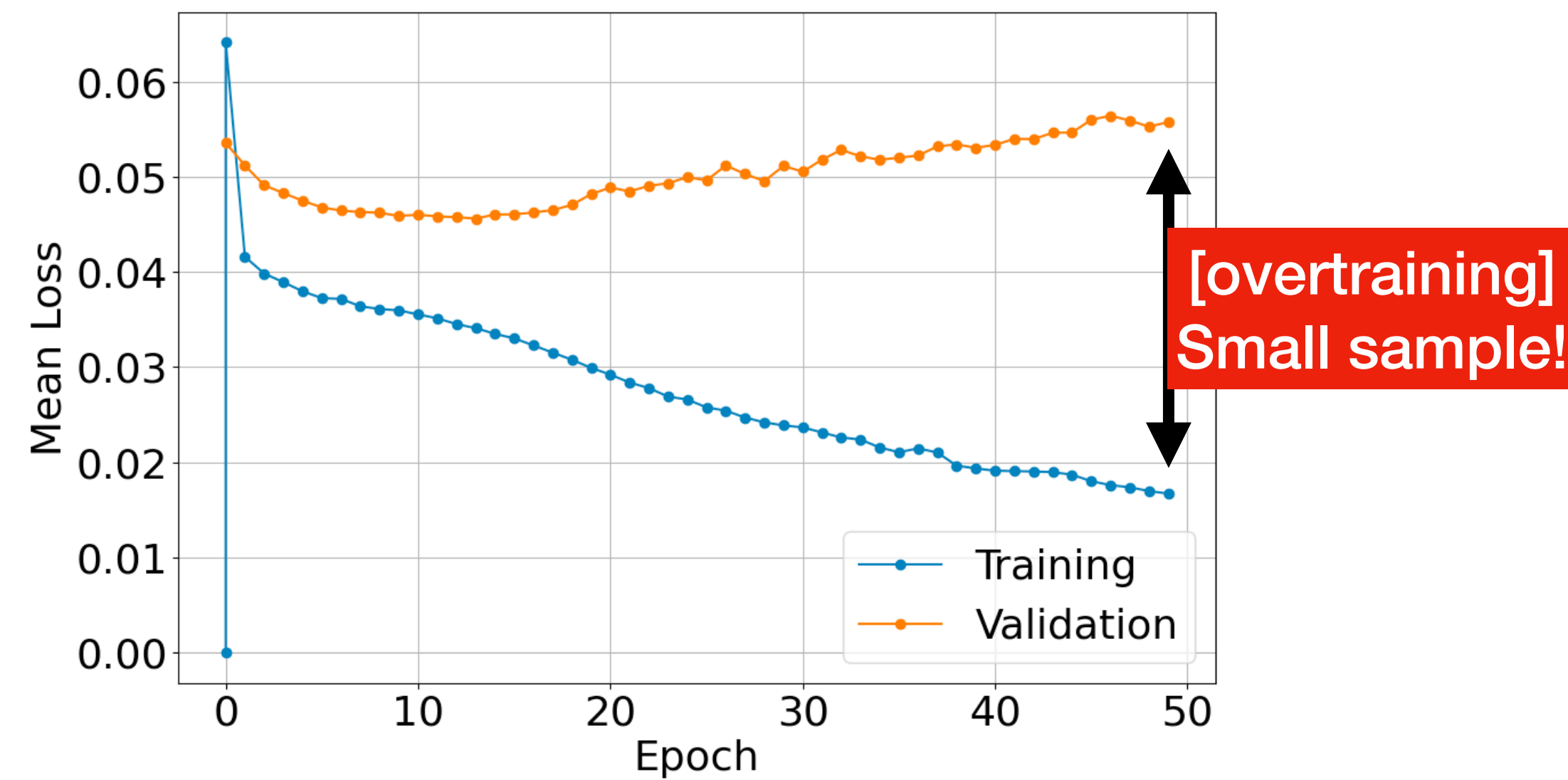


DNNROI for PDHD

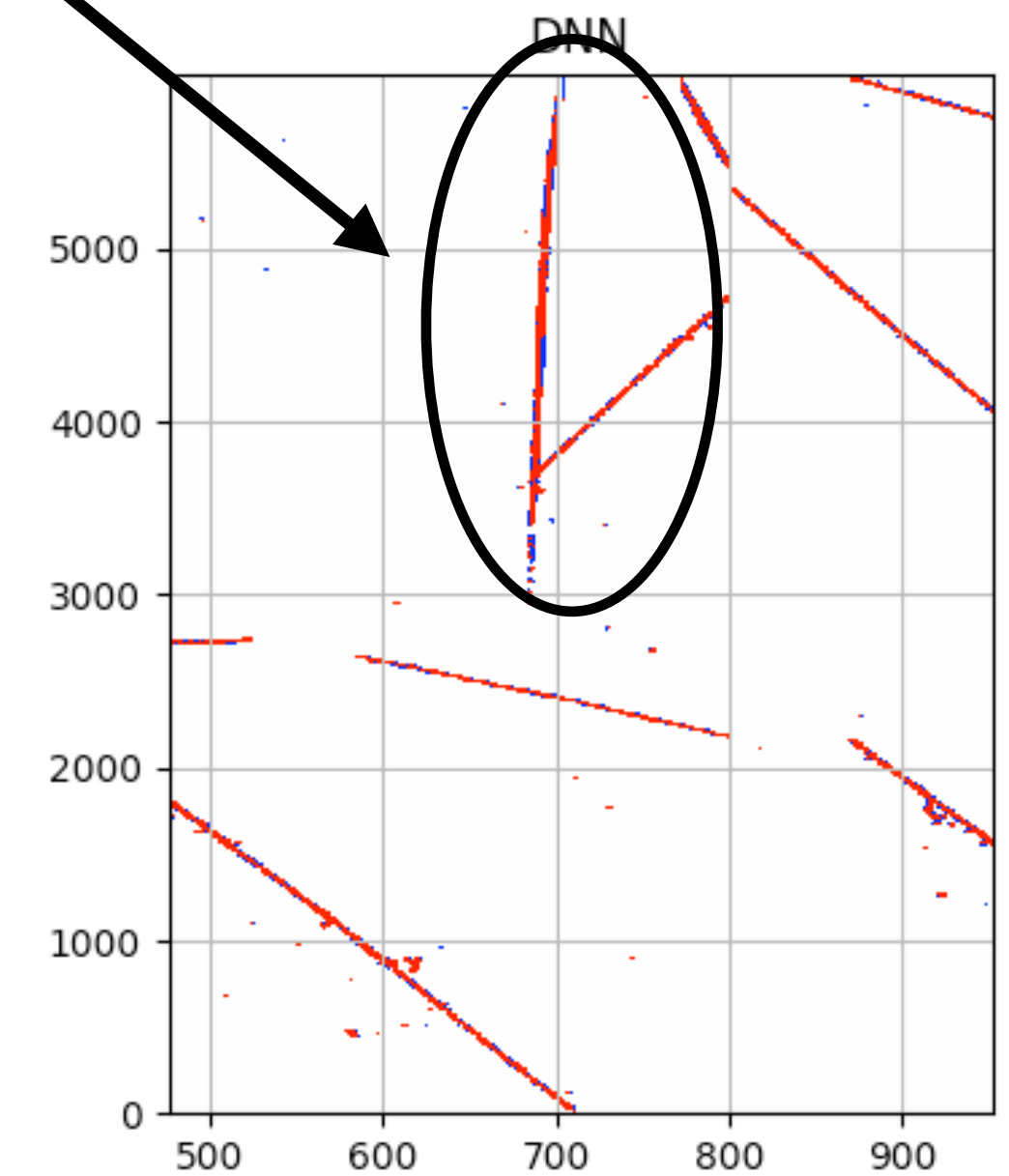
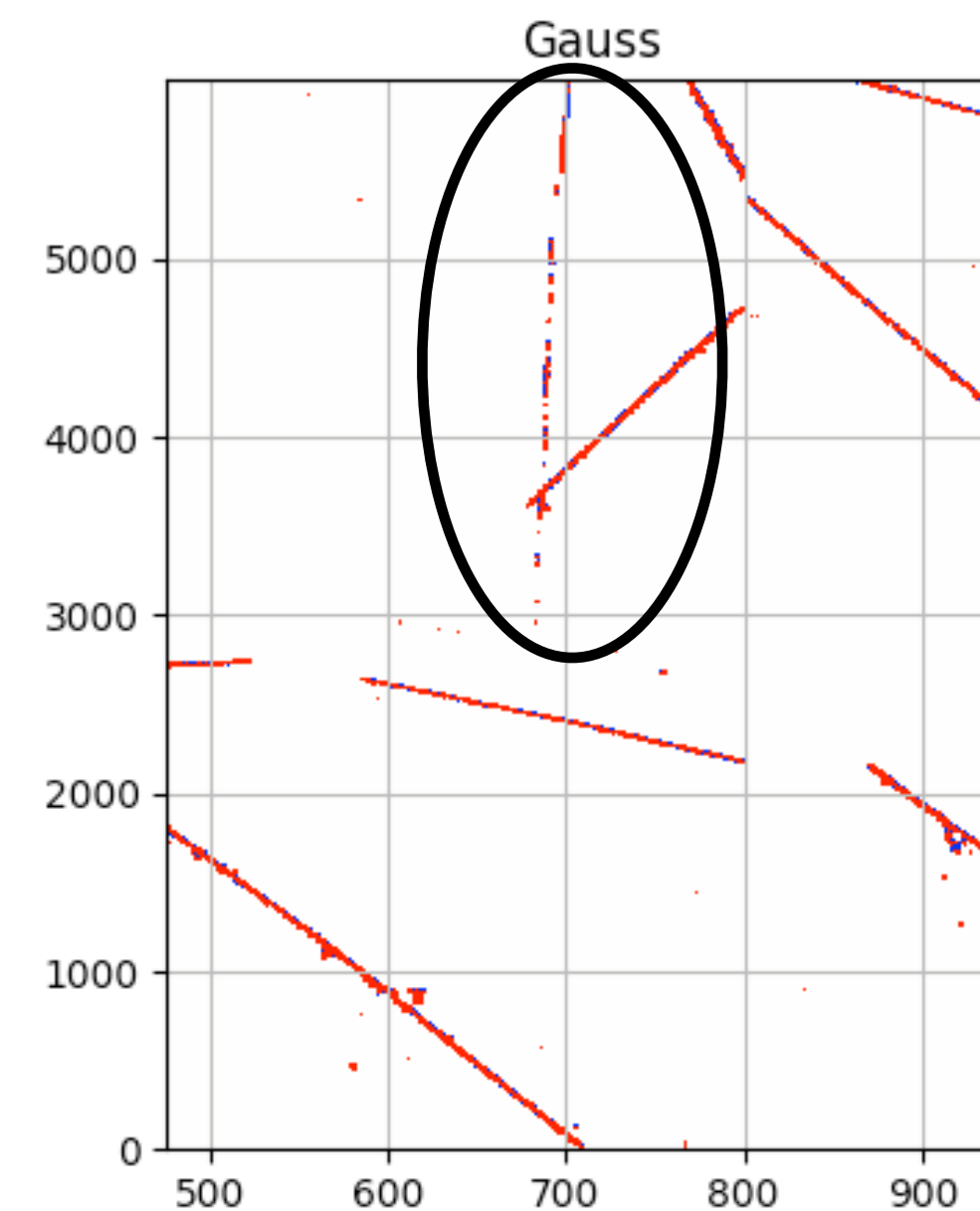
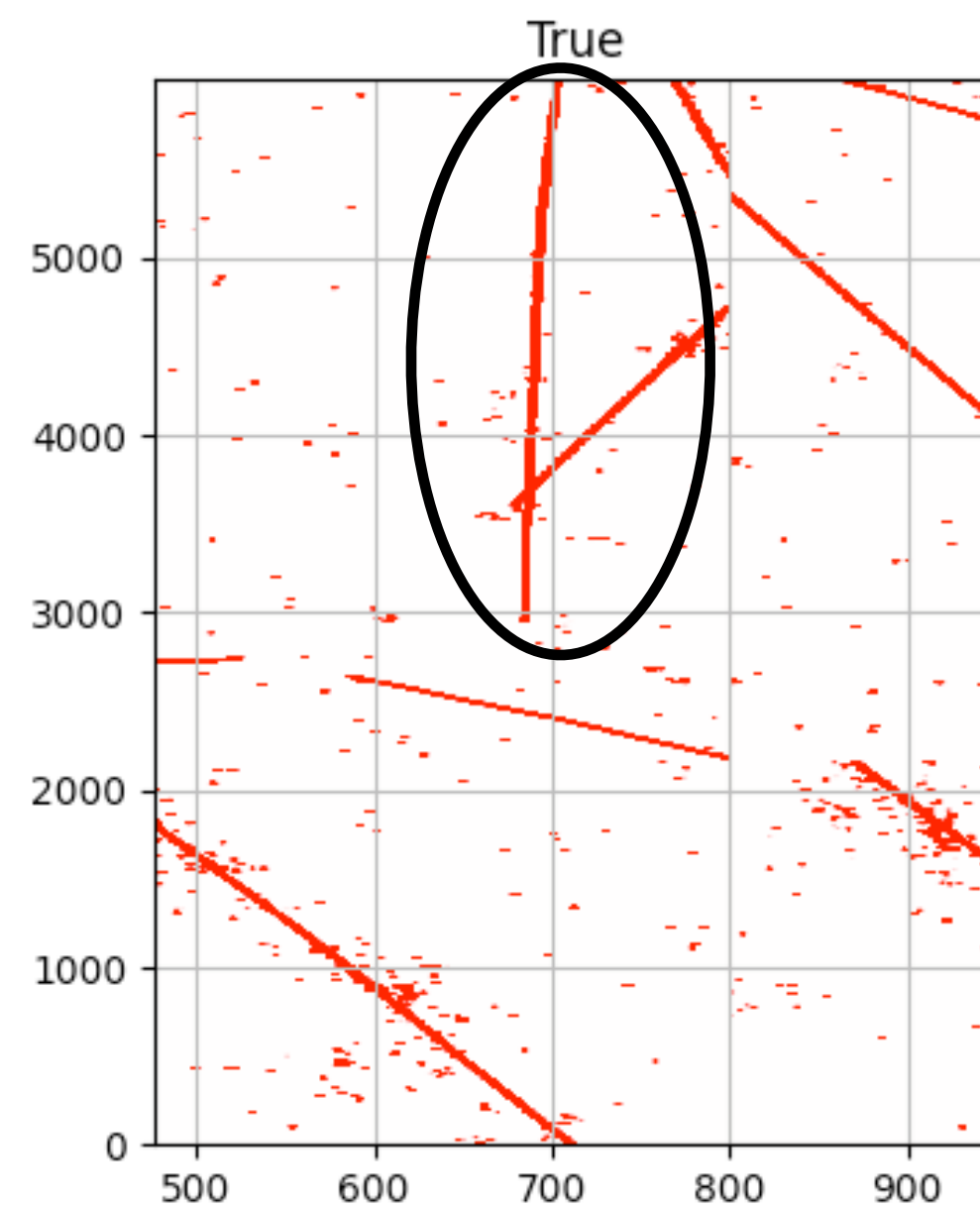
Sergey Martynenko

Reminder

- 100 cosmic events in PDHD
- 90/10 split
- 50 epoch
- Overtraining + missing track parts
- Need more events!

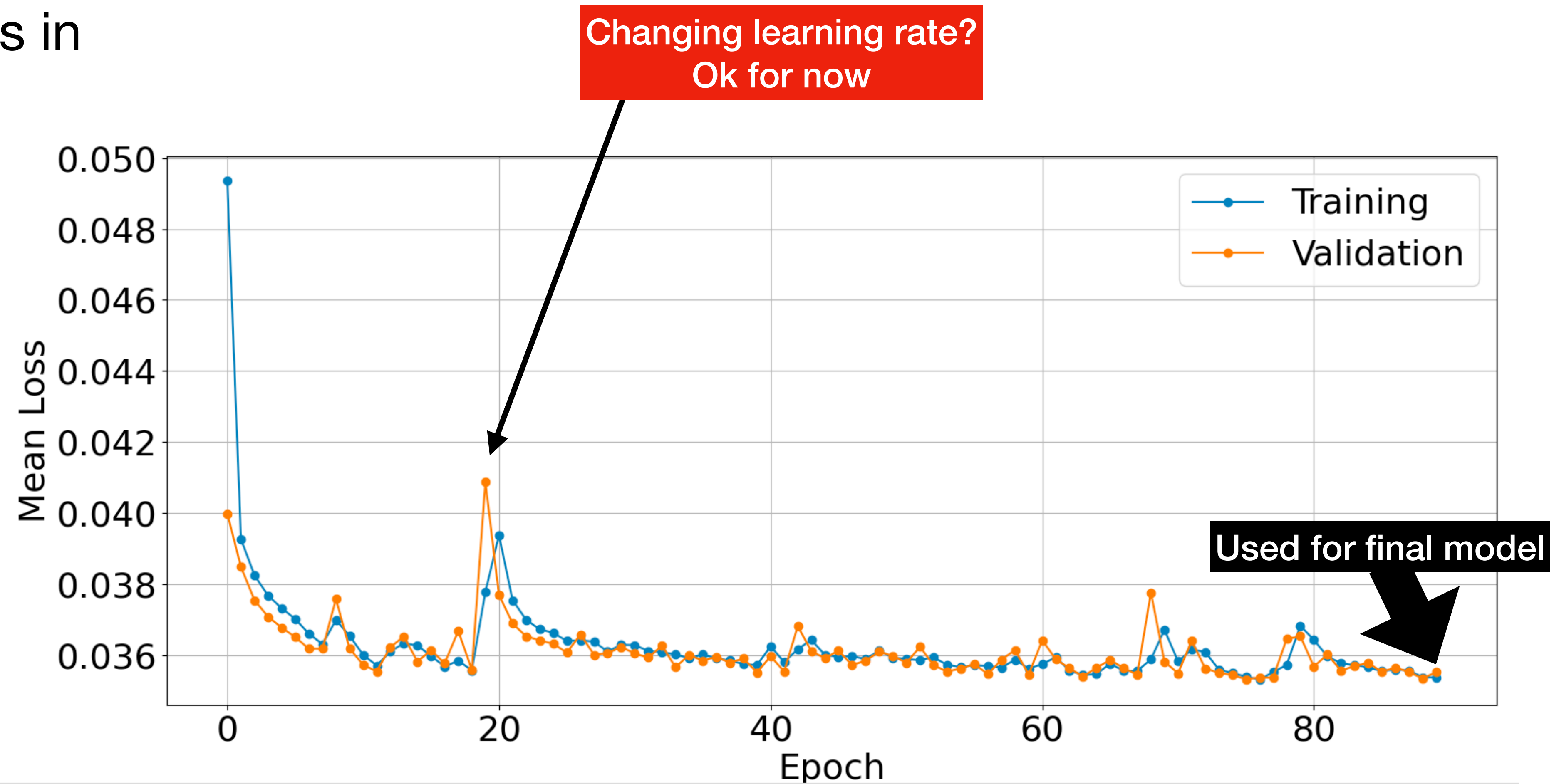


Disappeared part of track
Need more events!



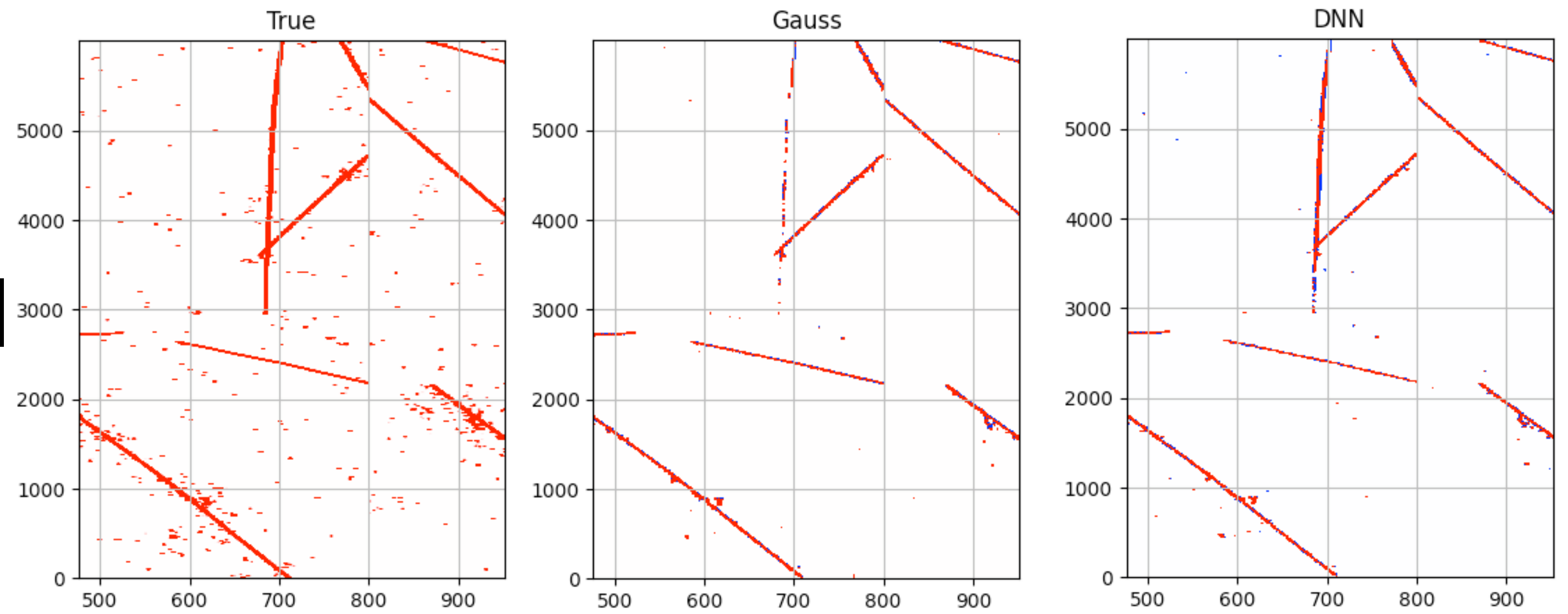
Do Training

- 320 cosmic events in PDHD
- 80/20 split
- 90 epoch

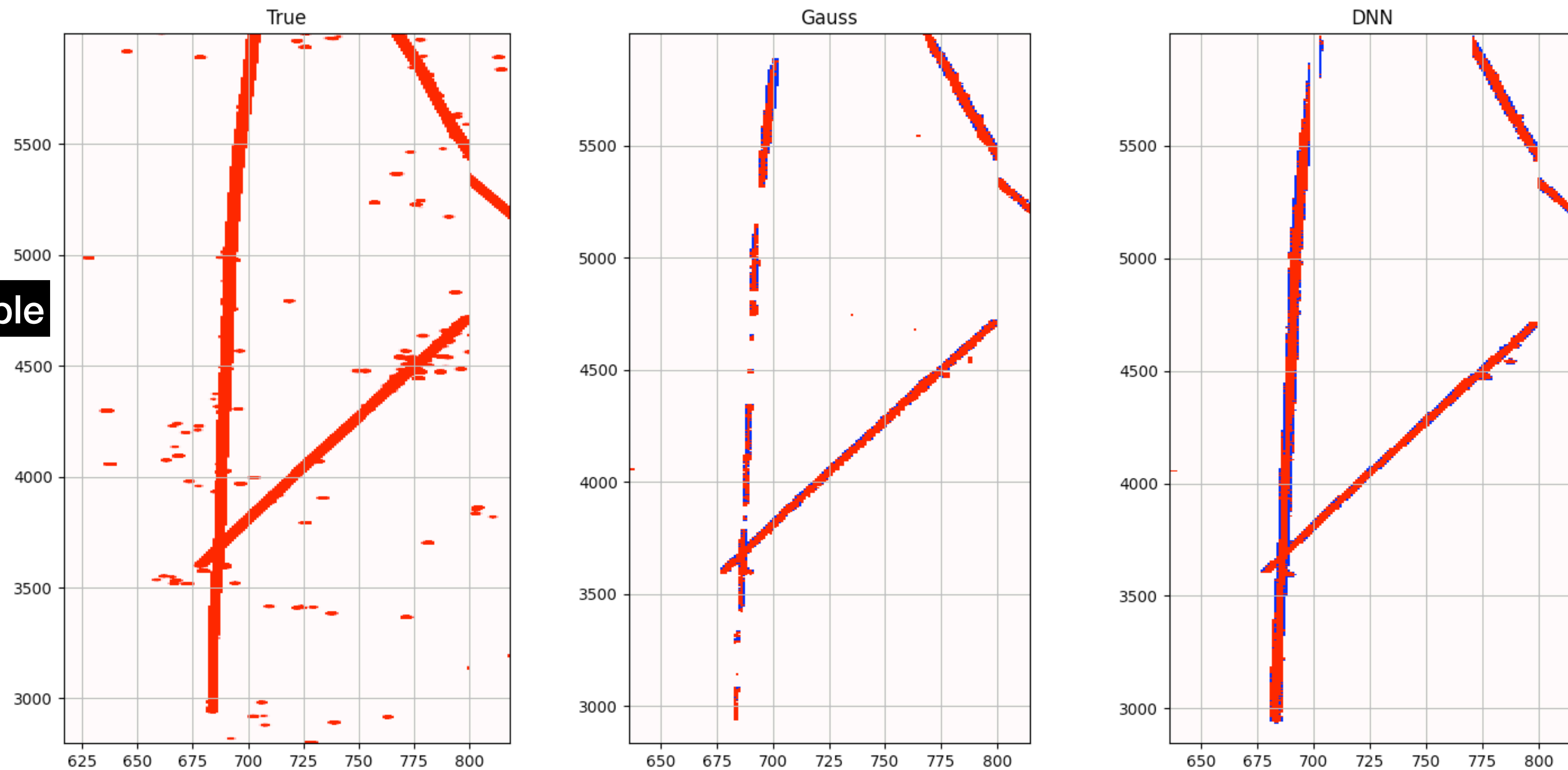


Repeat results

Small sample



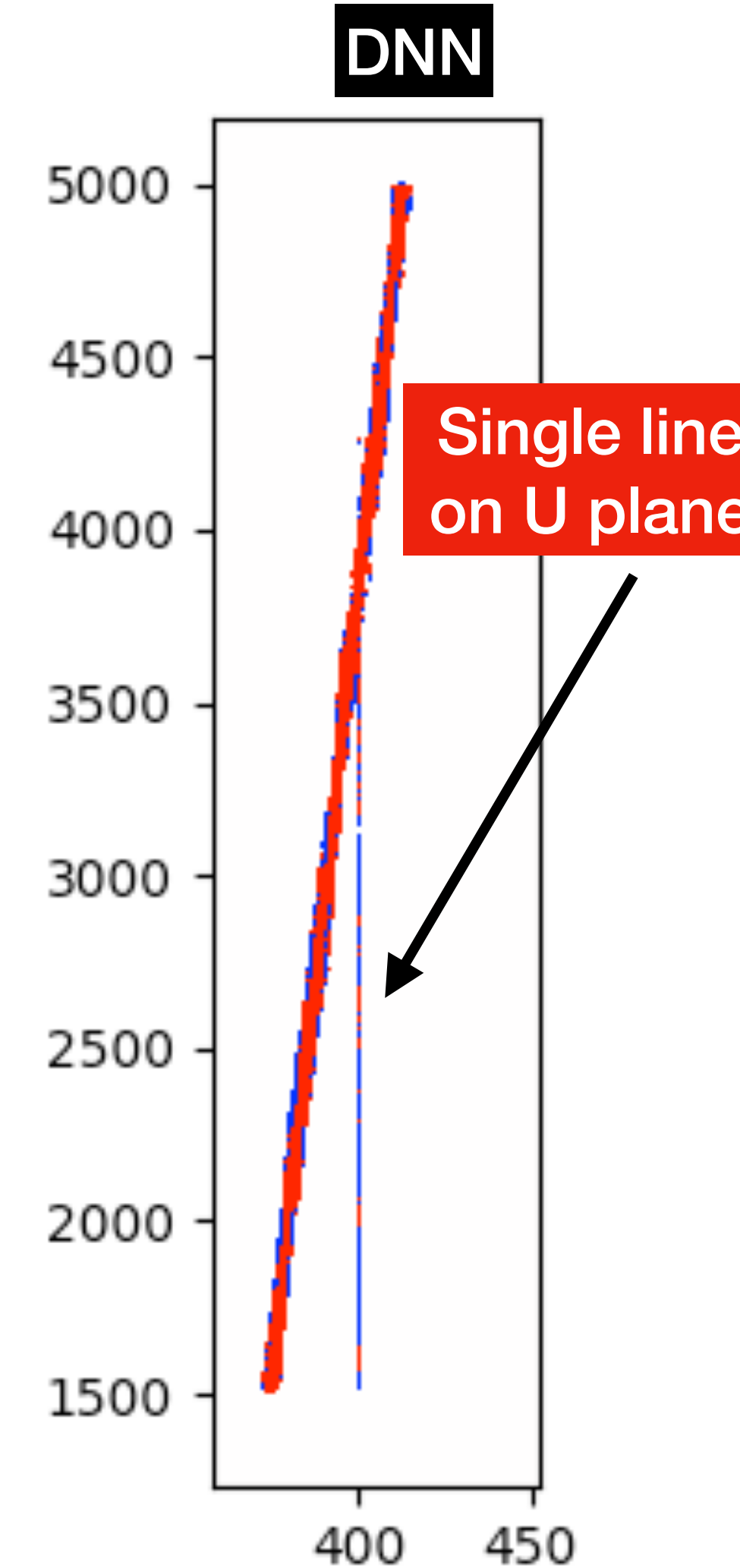
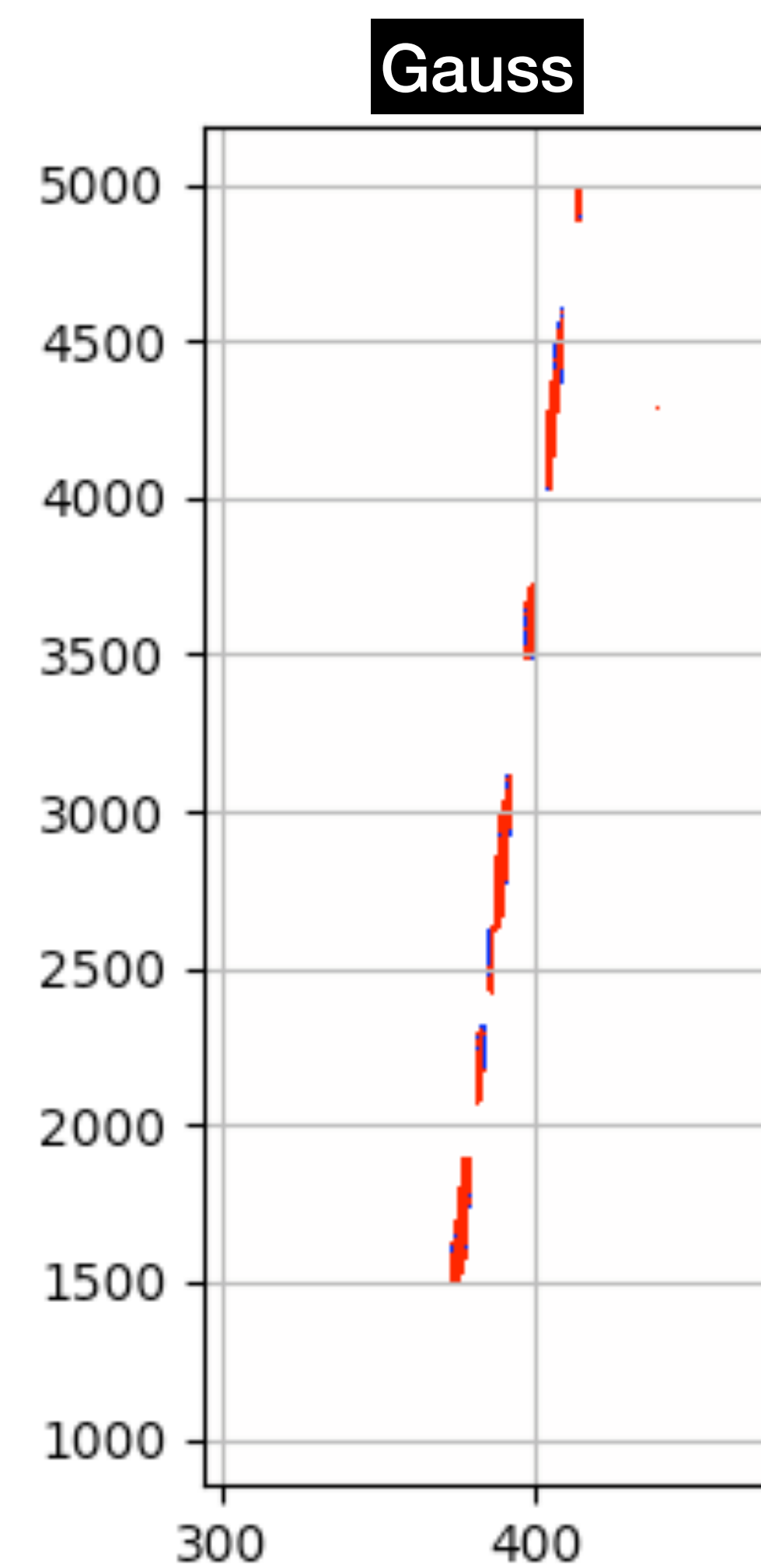
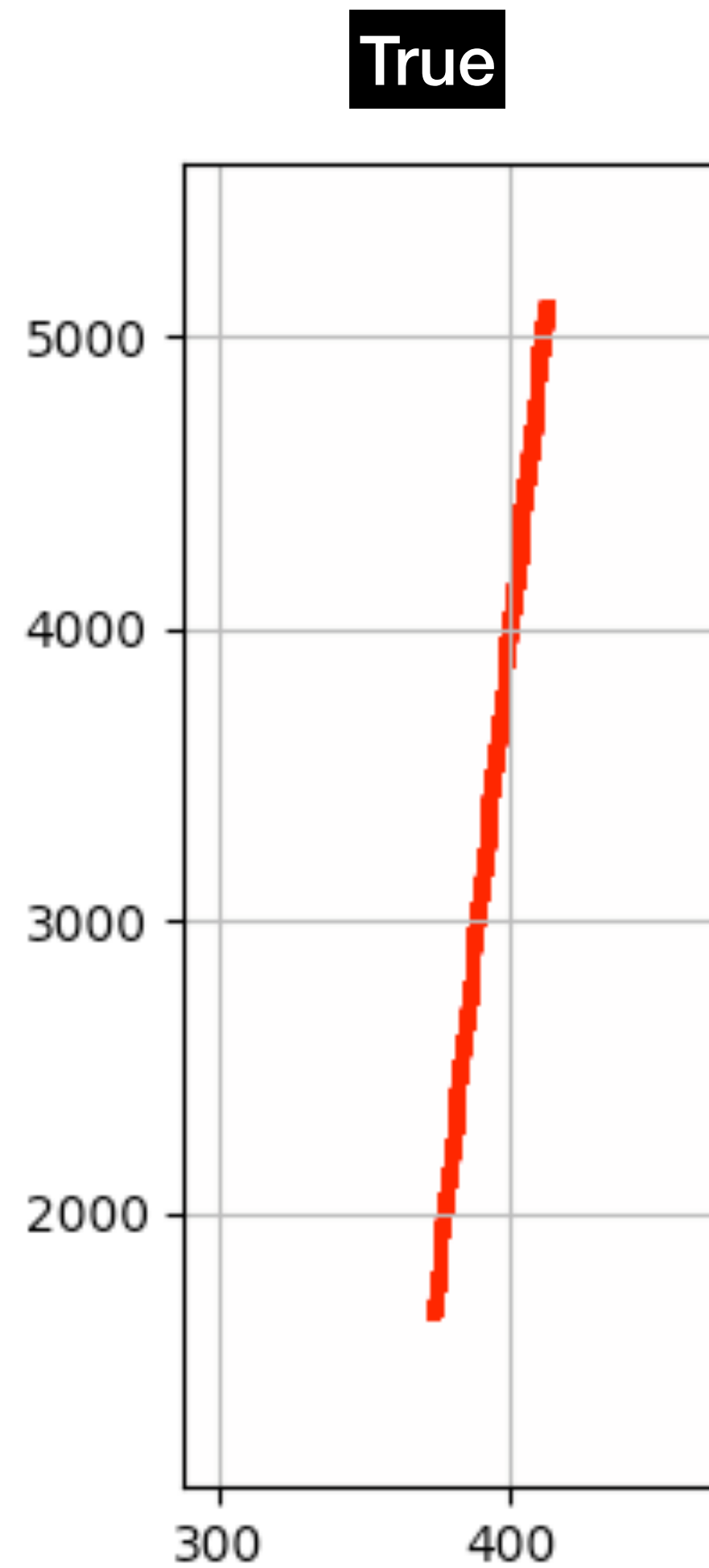
New enlarged sample



Single track

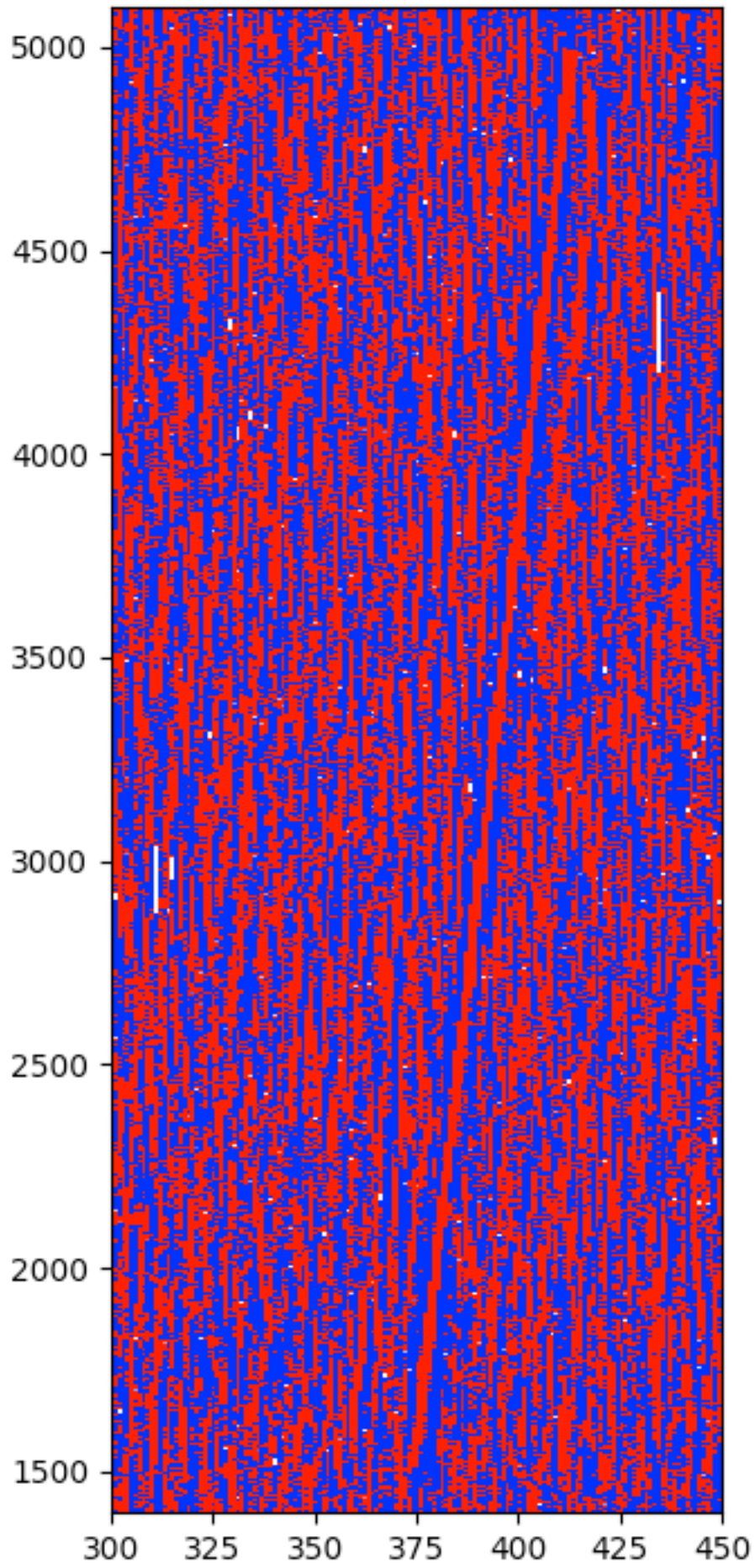
- Need performance evaluation
- Lets simulate single tracks
- Single-channel “ghost” track on U-plane?

```
local trackray = {  
    tail: wc.point(-4.0, 0.0, 0.0, wc.m),  
    head: wc.point(+4.0, 0.5, 1.0, wc.m),  
};
```

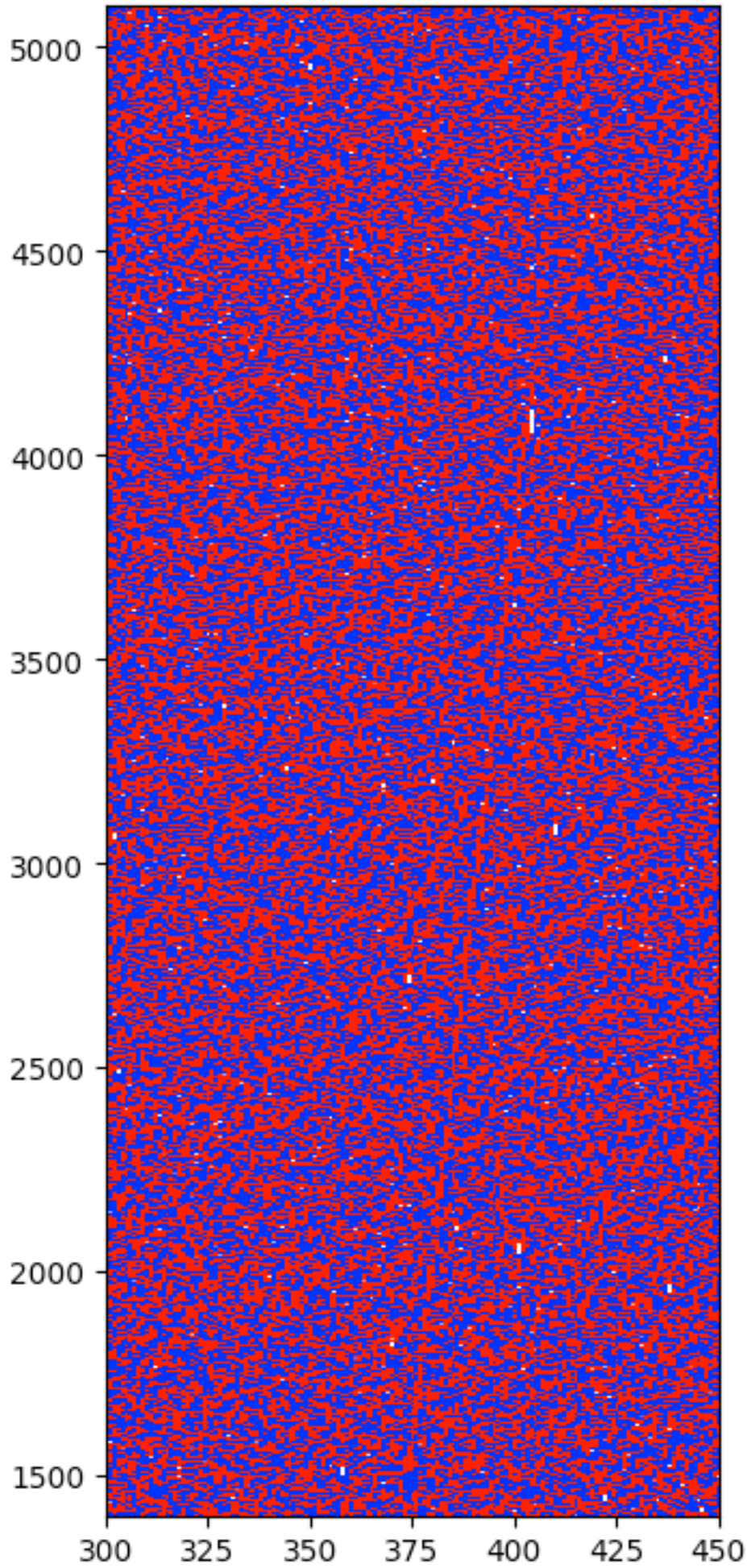


Input to Single Track

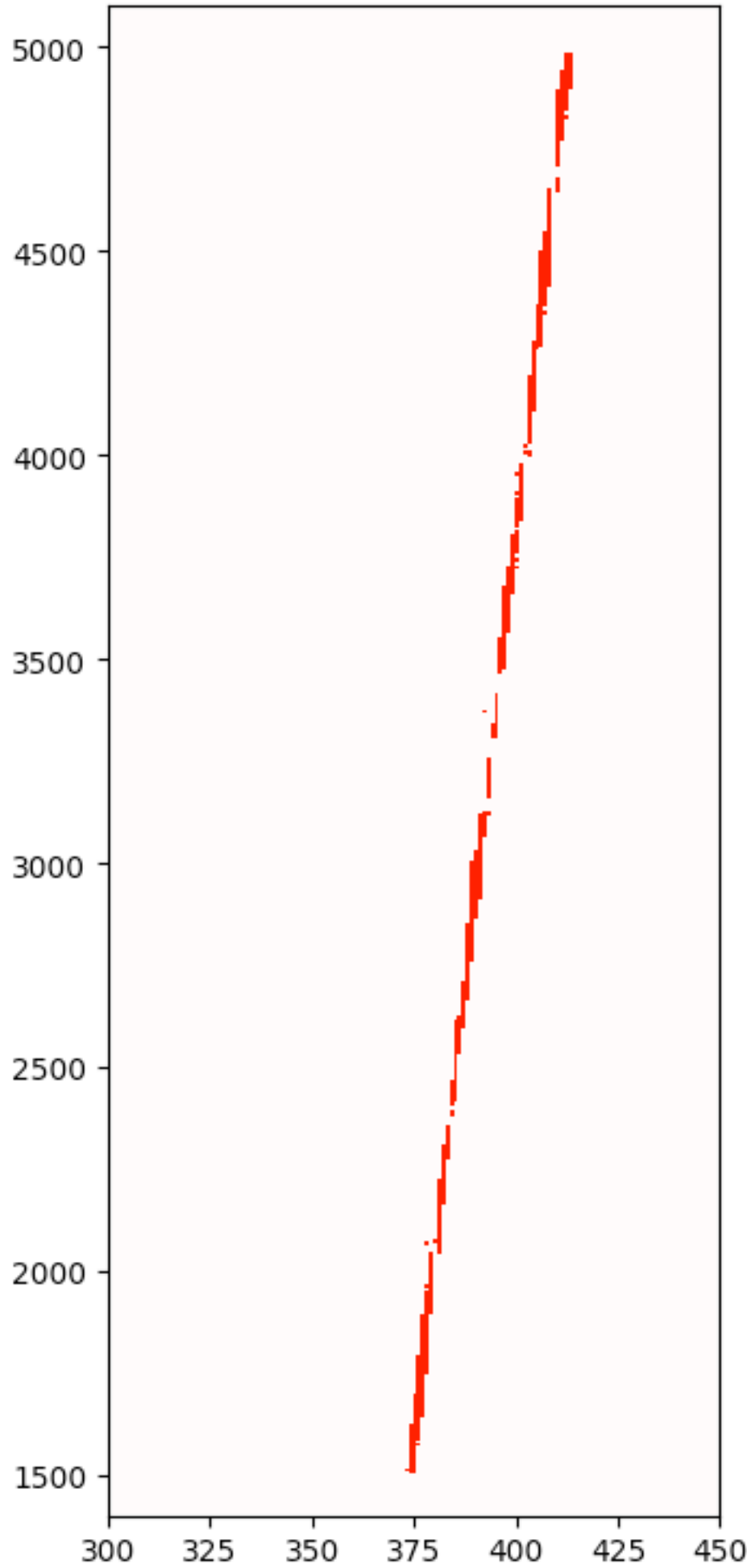
Loose LF



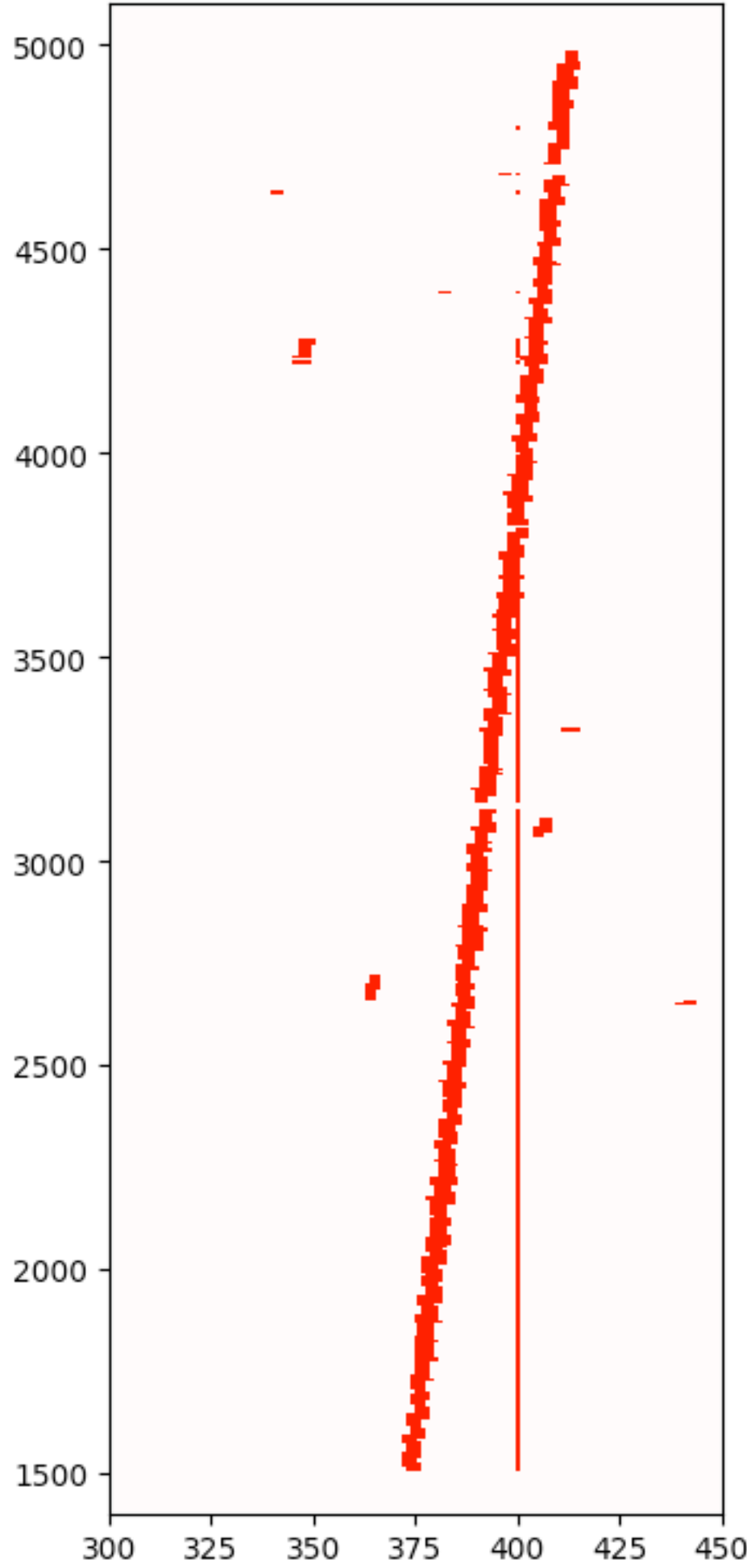
Tight LF



mp3_roi



mp2_roi



Single track

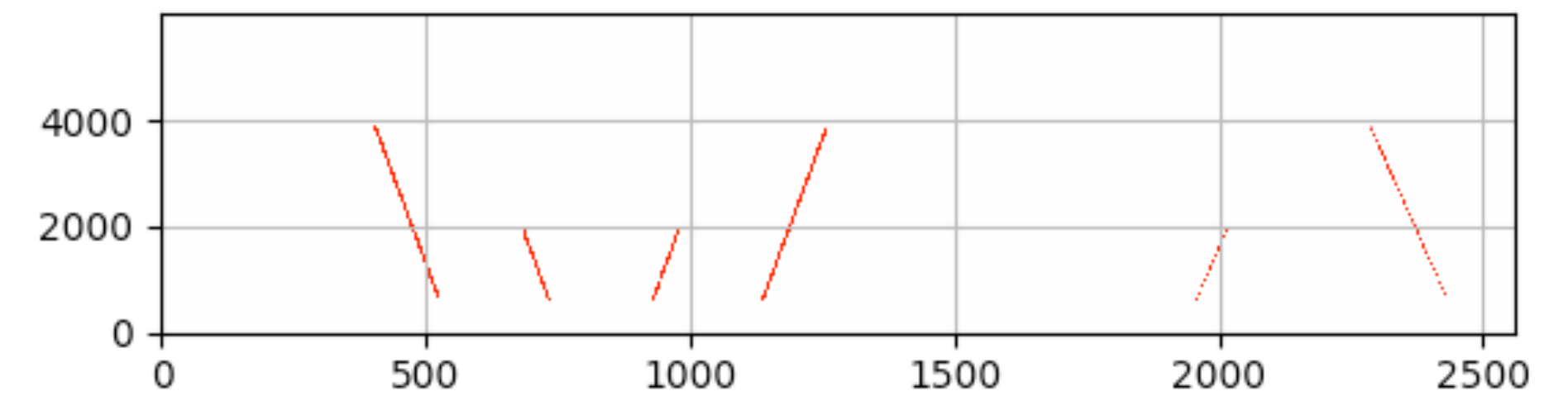
```
thetaXZ = 75*wc.deg

local stubby_top = {
  tail: wc.point(100, 100, 100, wc.cm),
  head: wc.point(100*(1 + std.tan(thetaXZ)), 100, 100*(1+1), wc.cm),
};

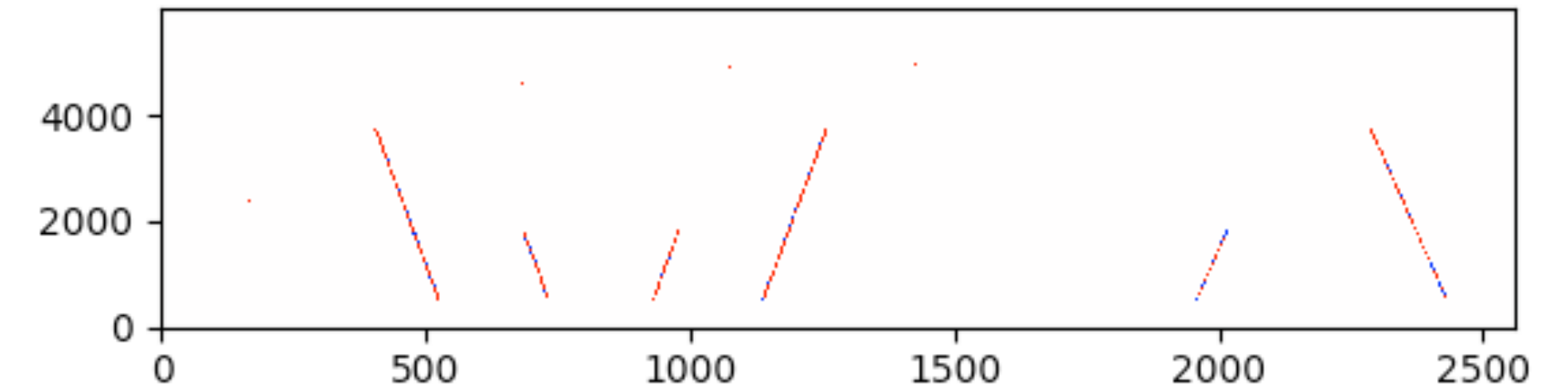
local stubby_bottom = {
  tail: wc.point(-100, 100, 100, wc.cm),
  head: wc.point(-100*(1 + std.tan(thetaXZ)), 100, 100*(1+1), wc.cm),
};
```

- What to do about this “ghost” track?
- Haiwang mentioned standard performance validation mechanisms in development?

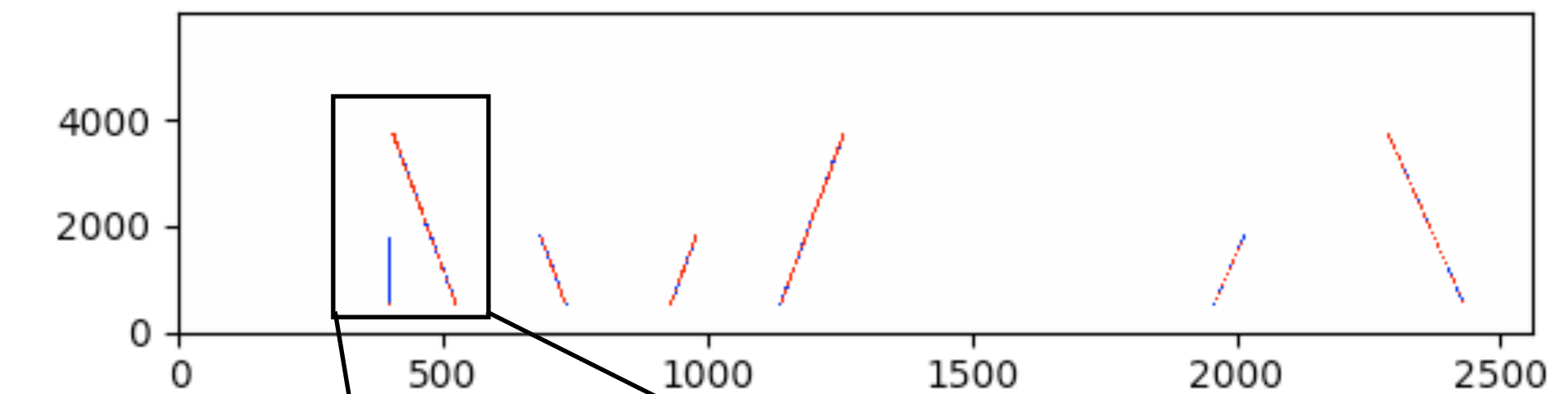
True



Gauss



DNN



mp2_roi

