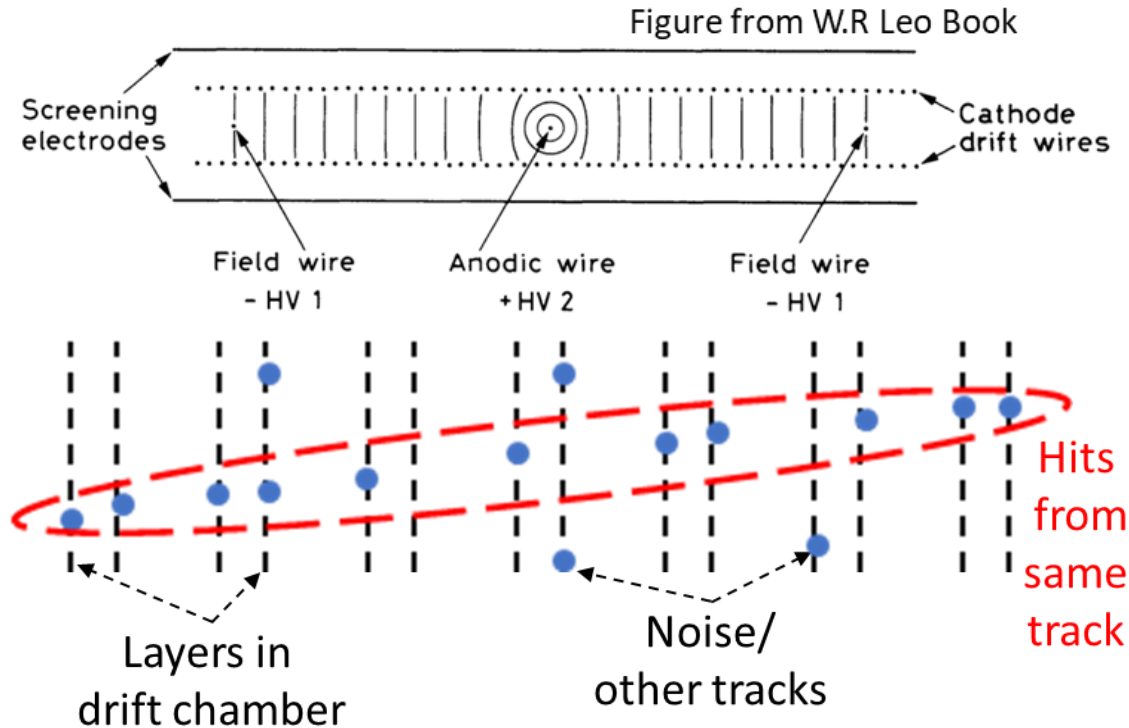


An Initial Study of Neural-Network-Assisted Approaches for Drift Chamber Tracking

Poster #75, Viet Nguyen et al.

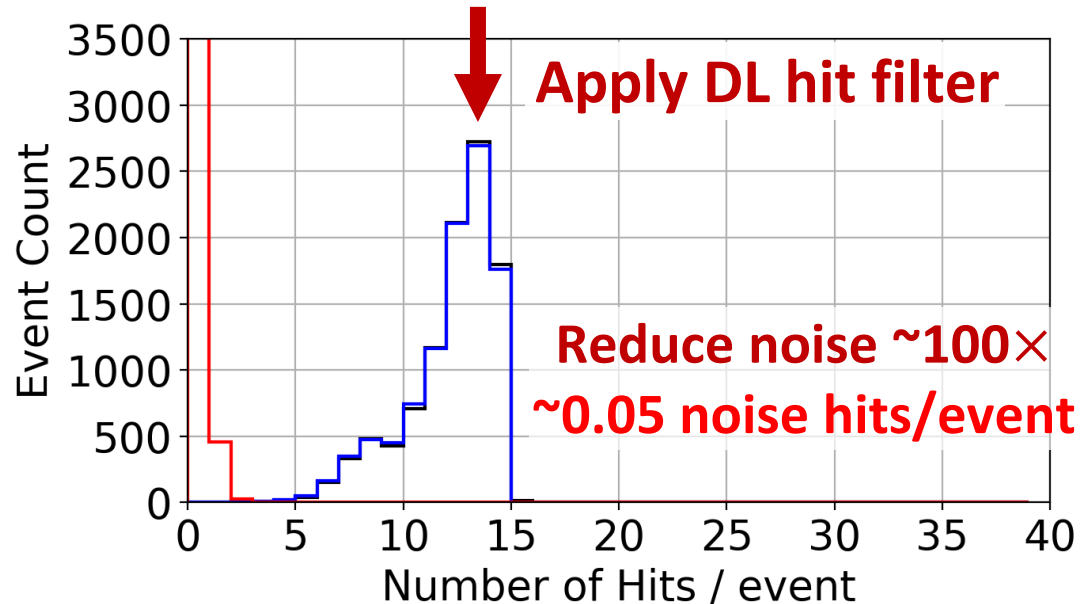
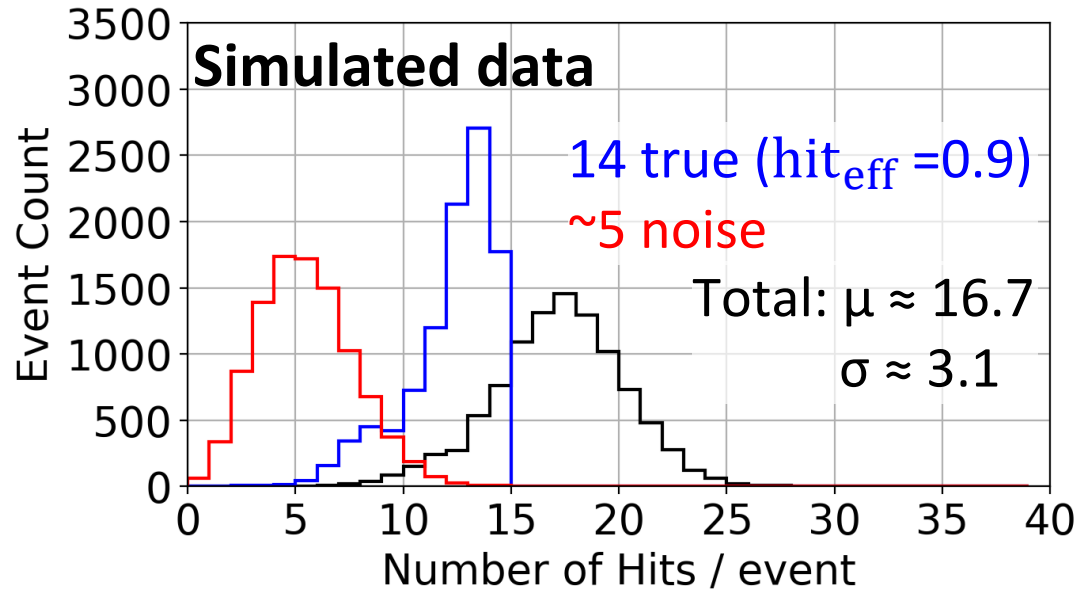
Drift chamber: gas ionization detector
 → Track charged particles



Problem: in typical drift chamber tracking, noise increases hit combinations
 → slow down track fitting, degrade tracking performance

Idea: apply a deep-learning hit filter before track fitting

Initial results



Tracking improvement

n_{event}	Passed fitting χ^2 cut	Correctly reconstructed
No filter	~60%	~52%
With filter	~95%	~80%

Runtime (latency) impact

DL hit-filtering mitigates fitting slowdown.

→ Please visit our poster for more details