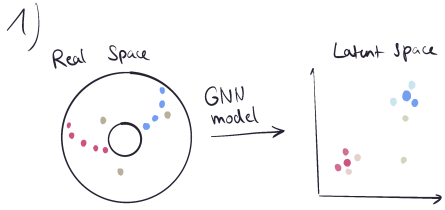
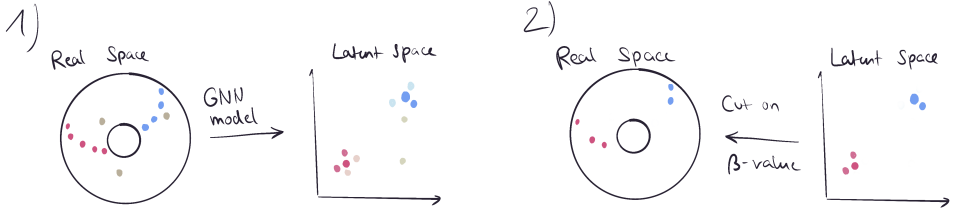
Graph Neural Network based Track Finding in the CDC

Lea Reuter, Torben Ferber, Slavomira Stefkova | Thursday 21st December, 2023

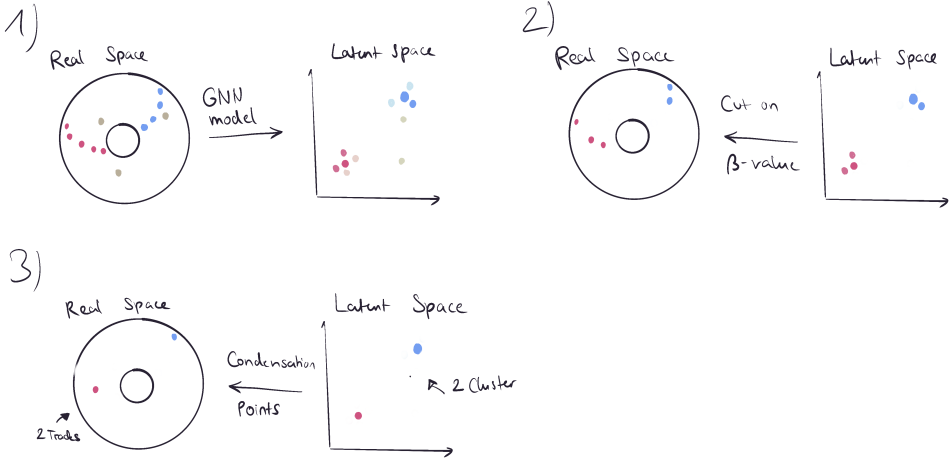
Object Condensation to Trackfinding



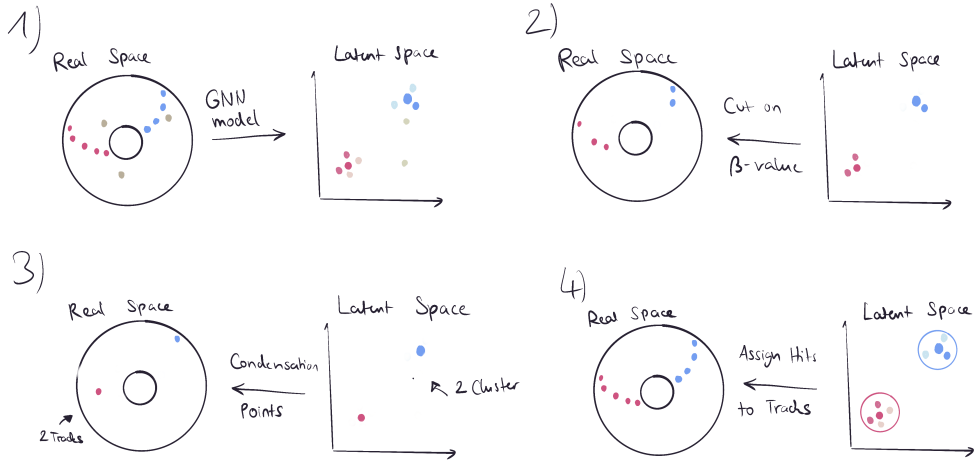
Object Condensation to Trackfinding



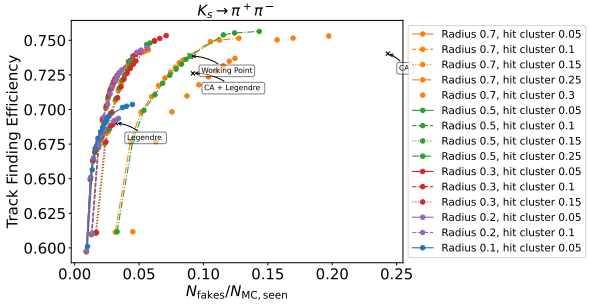
Object Condensation to Trackfinding

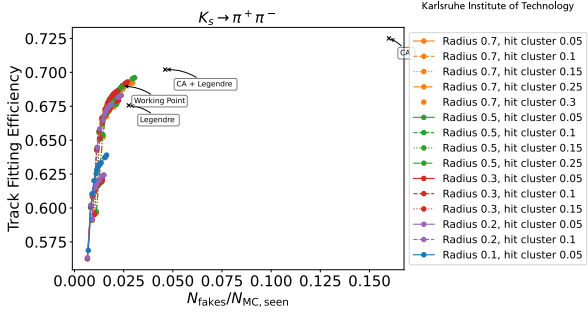


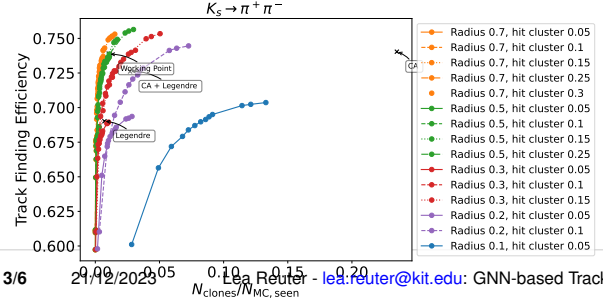
Object Condensation to Trackfinding

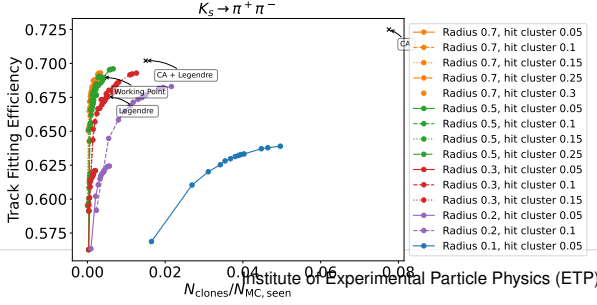


Updated Roc curves, only fit above 6 hits

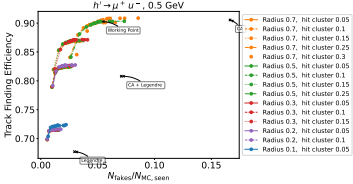


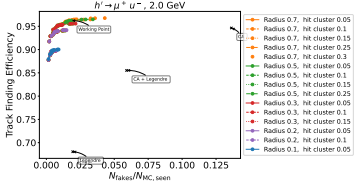


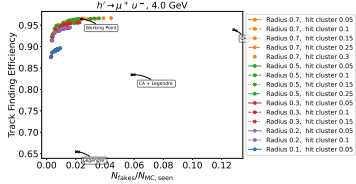


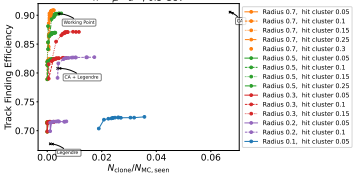


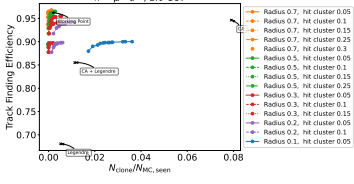
DH Finding Efficiencies

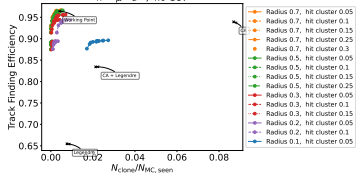




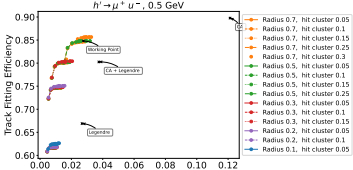


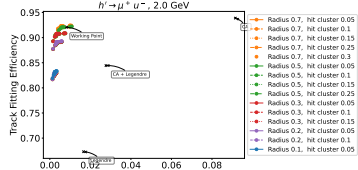


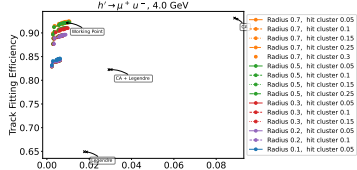


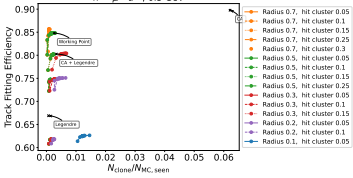


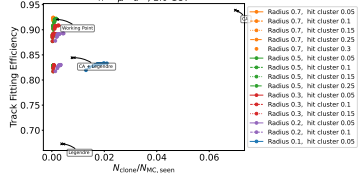
DH Fitting Efficiencies

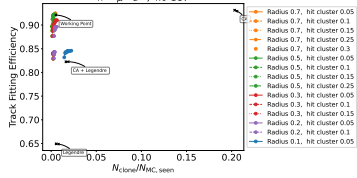




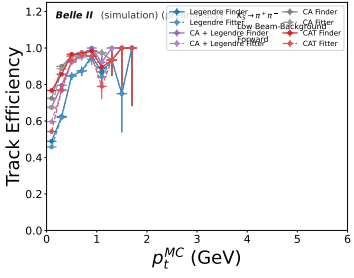


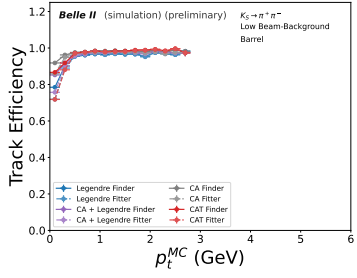


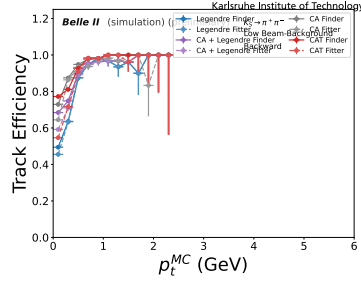




K_S


Belle II (simulation) (
$K_S \to \pi^+\pi^-$
Low Beam-Background
Forward
Legendre Finder
Legendre Fitter
CA + Legendre Finder
CA + Legendre Fitter
CA Finder
CA Fitter
CAT Finder
CAT Fitter
Track Efficiency
p_t^{MC} (GeV)


Belle II (simulation) (preliminary)
$K_S \to \pi^+\pi^-$
Low Beam-Background
Barrel
Legendre Finder
Legendre Fitter
CA + Legendre Finder
CA + Legendre Fitter
CA Finder
CA Fitter
CAT Finder
CAT Fitter
Track Efficiency
p_t^{MC} (GeV)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$K_S \to \pi^+\pi^-$
Low Beam-Background
Backward
Legendre Finder
Legendre Fitter
CA + Legendre Finder
CA + Legendre Fitter
CA Finder
CA Fitter
CAT Finder
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Track Efficiency
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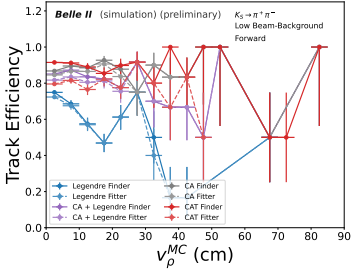
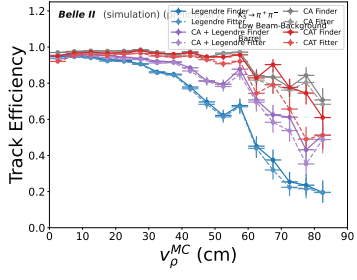

Belle II (simulation) (preliminary)
$K_S \to \pi^+\pi^-$
Low Beam-Background
Forward
Legendre Finder
Legendre Fitter
CA + Legendre Finder
CA + Legendre Fitter
CA Finder
CA Fitter
CAT Finder
CAT Fitter
Track Efficiency
v_ρ^{MC} (cm)


Belle II (simulation) (
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Low Beam-Background
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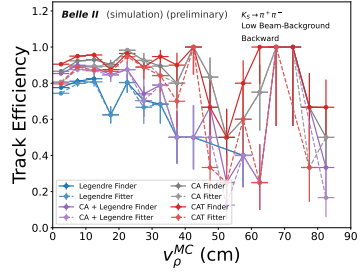
v_ρ^{MC} (cm)


Belle II (simulation) (preliminary)
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Low Beam-Background
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