

J/ ψ angular coefficients study status

Main goal: obtaining J/ ψ angular coefficients pT – spectra taking into account background and systematics

Now: working on **signal/background** separation using BDT

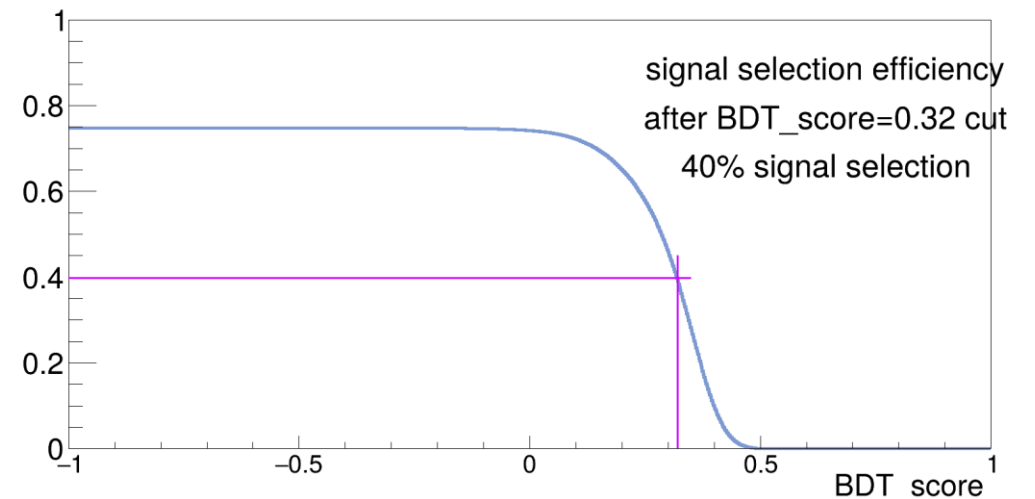
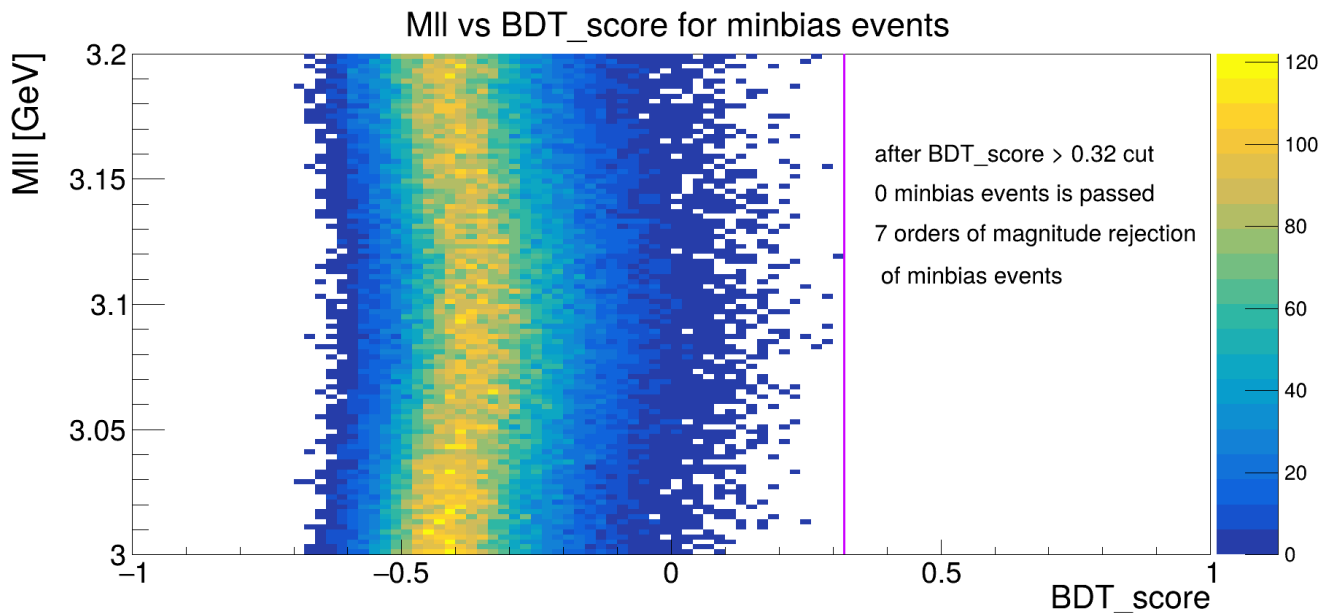
FEATURES:

Stage 2 analysis: $\sqrt{s} = 27$ GeV, all subdetectors included in simulation

Variables for training:
kinematics; geometry; subsystems info including RS

Background: minbias (11M sample), central production

Signal: J/ $\psi \rightarrow \mu\mu$ (1.8M), spdroot 4.1.7.5dev



Efficiency with BDT cut

Условия отбора

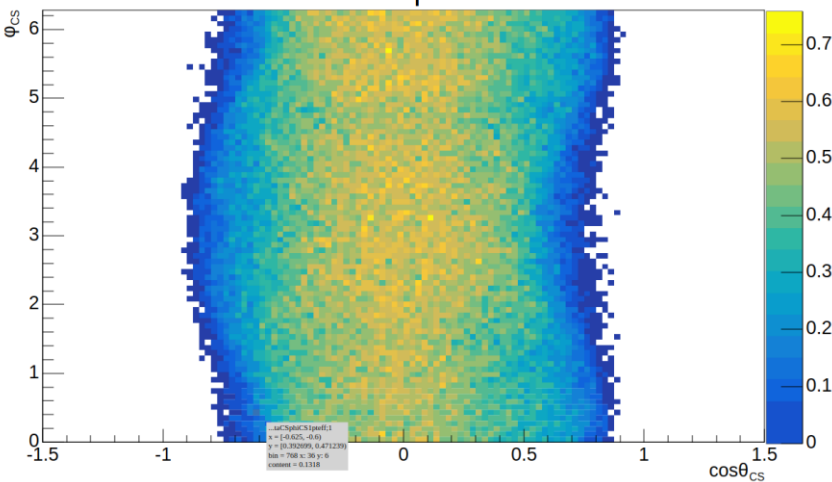
$p_T(\mu^+ \mu^-) > 0.3 \text{ ГэВ}$; $3.0 \text{ ГэВ} < M_{\text{inv}} < 3.2 \text{ ГэВ}$;

1 hit in RS ($\mu^+ \mu^-$)

BDT_score > 0.32 and 1 dimuon in event

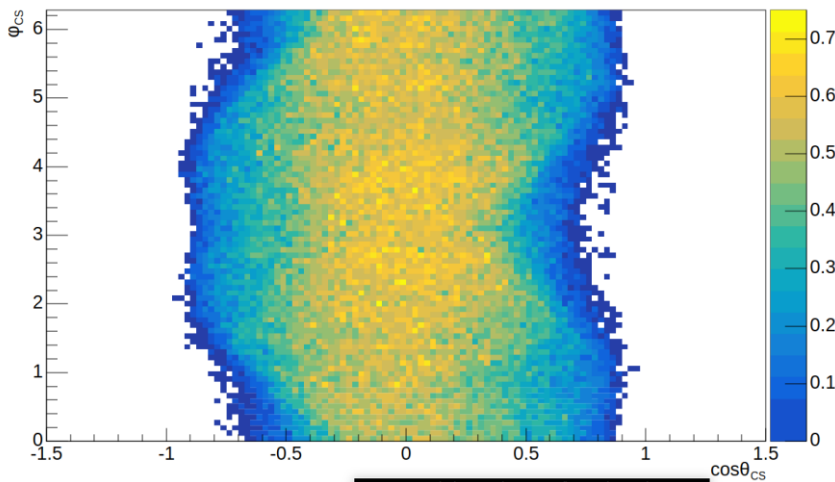
$p_T(J/\psi) < 0.73$

Eff J/ ψ



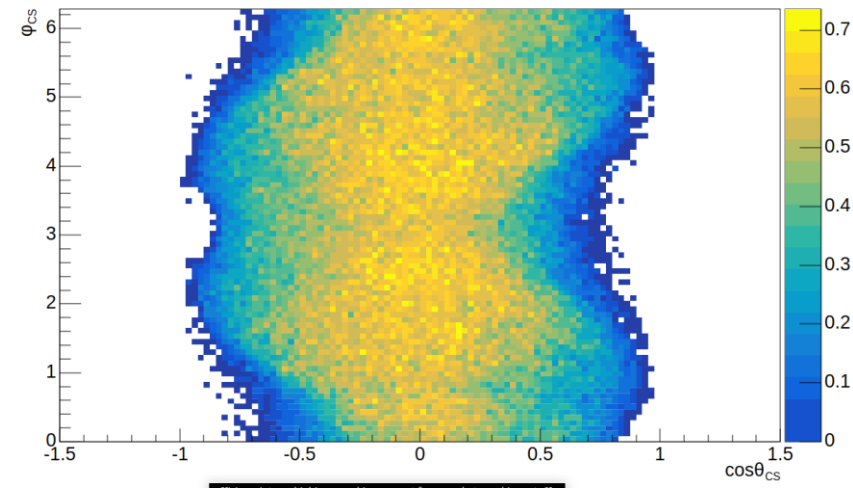
$0.73 < p_T(J/\psi) < 1.03$

Eff J/ ψ

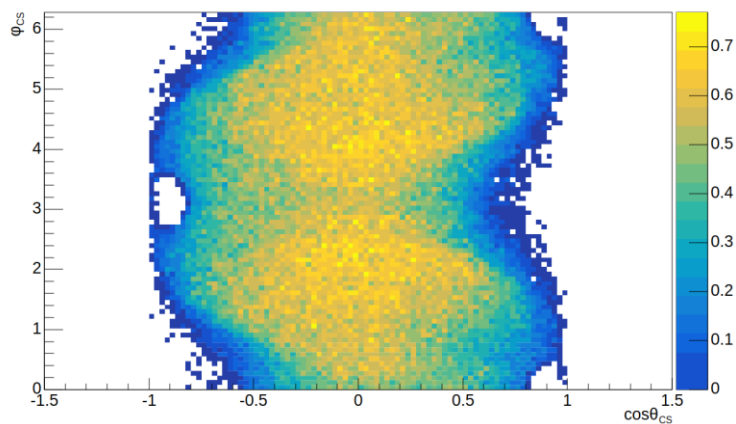


$1.03 < p_T(J/\psi) < 1.29$

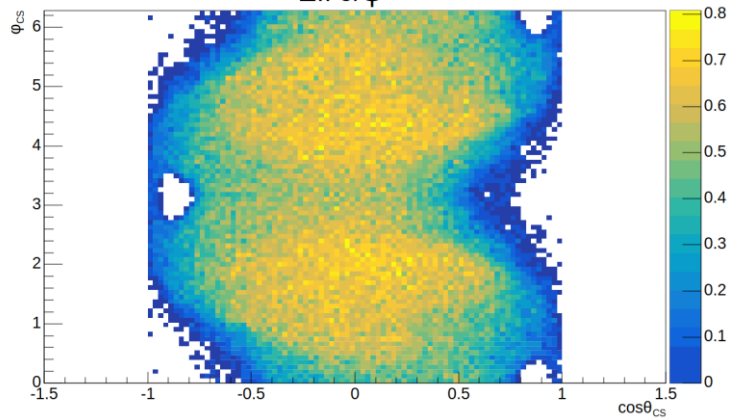
Eff J/ ψ



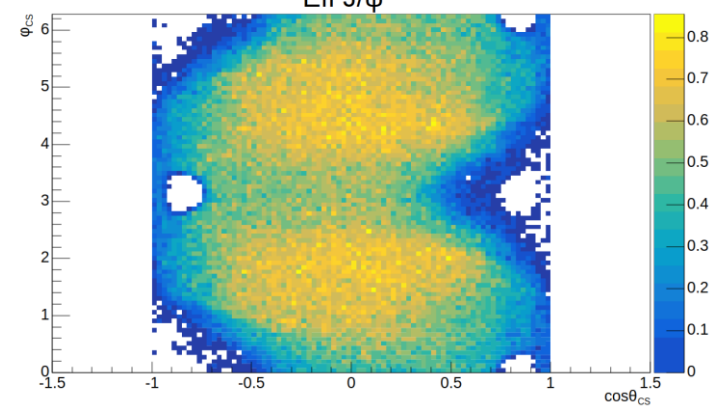
Eff J/ ψ



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Eff J/ ψ



Efficiency with BDT cut

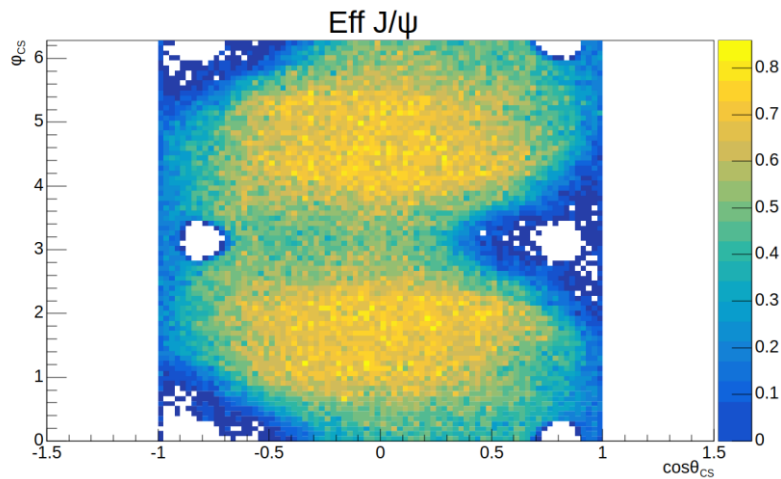
Условия отбора

$p_T(\mu^+ \mu^-) > 0.3 \text{ ГэВ}$; $3.0 \text{ ГэВ} < M_{\text{inv}} < 3.2 \text{ ГэВ}$;

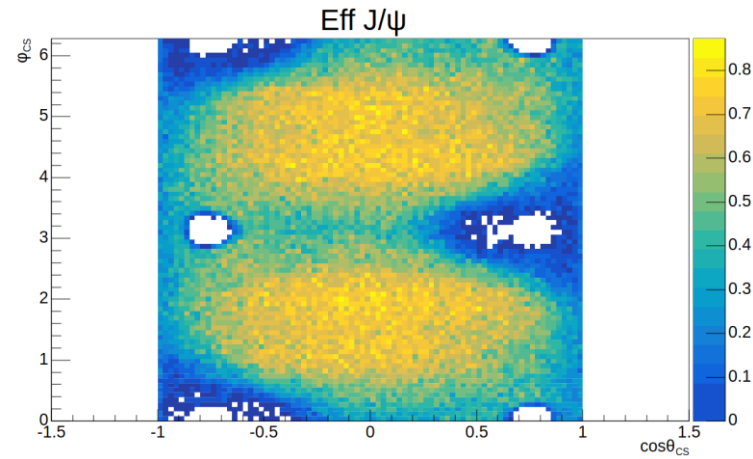
1 hit in RS ($\mu^+ \mu^-$)

BDT_score > 0.32 and 1 dimuon in event

$2.01 < p_T(\text{J}/\psi) < 2.31$



$2.31 < p_T(\text{J}/\psi) < 2.75$



$2.75 < p_T(\text{J}/\psi) < 9.45$

