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## Commission the machine learning technique to the non-prompt $J/\Psi$ measurement in Pb–Pb collisions with ALICE

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Quarkonium production is one of the essential probes for studying the properties of the quark-gluon plasma (QGP) created in relativistic heavy-ion collisions. The suppression of  $J/\psi$  meson due to colour screening in medium and medium-induced dissociation was initially proposed as direct evidence of QGP formation. The non-prompt component of  $J/\psi$  production from b-hadron decays allows one to access the interaction of beauty quarks with the QGP. The main challenge to extend the measurements to low  $p_T$  is the huge combinatorial background. The machine learning approach has been used in this data analysis to improve  $J/\psi$  meson signal-to-background ratio.

In this poster, the performance of the new machine learning approach, applied on data of Pb–Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV, will be presented. The signal reconstruction efficiency and signal over background ratio, obtained from machine learning approach, will be compared with the classical cut approach, as a function of centrality and  $p_T$ . A similar comparison between the two methods will be eventually discussed for efficiency corrected quantities, such as yields.

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