

# Hidden charm meson production in antiproton-induced reactions on nuclei

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## Collaboration

## Abstract content

The production of charmonia  $J/\psi(1S)$  and  $\psi'(2S)$  in the antiproton-nucleus reactions at  $p_{lab} = 3 - 10$  GeV/c is studied on the basis of the Glauber model taking into account nuclear Fermi motion effects [1,2]. The main reaction channel is charmonium formation in an antiproton-proton collision. We show that the target mass dependence of the charmonium transparency ratio allows to determine the genuine charmonium-nucleon dissociation cross section. This is contrasted to the  $J/\psi$  photoproduction at high energies ( $E_\gamma = 20$  and 120 GeV), where charmonium formation length is large which blurs the sensitivity of the transparency ratio to the charmonium-nucleon dissociation cross section. Furthermore, the polarization effects in the production of  $\chi_{c2}(1P)$  states are evaluated within the generalized eikonal approximation [3]. Finally, the new opportunities for the studies of the  $X, Y, Z$  noncharmonium candidates at PANDA experiment are discussed.

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