



国立研究開発法人理化学研究所 仁科加速器研究センター  
第250回 RIBF核物理セミナー  
RIKEN Nishina Center for Accelerator Based Science  
The 250th RIBF Nuclear Physics Seminar

Surprising forward neutron asymmetries observed in polarized proton  
+ nucleus collision at RHIC

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RHIC has been operating since 2000 and is the only collider in the world with the ability to precisely control the spin polarization of colliding protons. During its first polarized proton run in 2001-2002 we discovered that when a proton with upward spin collides with another proton, the neutron produced in the collision prefers to emerge to the “right”. This phenomena was later explained by Regge theory, which predicts moderate dependence of the asymmetry on the colliding target either proton or nucleus.

In 2015, the first attempt in the world was made to collide polarized proton and nucleus in high energy. We observed that when protons collided with gold nuclei - which are much larger than protons - they produce a neutron with a strong preference to travel in the other direction: to the “left” ! I will address on this mysterious observation with our latest theoretical interpretation in the seminar.

\* The talk will be given in English language..

Apr.10th(Tue.)2018 13:30~  
RIBF Hall, RIBFbldg., RIKEN

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