

Abstract Submitted  
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**Exploration of Horizontal Intrinsic Spin Resonances in the AGS<sup>1</sup>** FANGLEI LIN, S.Y. LEE, Indiana University, USA, LEIF A. AHRENS, MEI BAI, KEVIN BROWN, ERNEST D. COURANT, JOSEPH W. GLENN, HAIXIN HUANG, ALFREDO LUCCIO, WILLIAM W. MACKAY, VADIM PTITSYN, THOMAS ROSER, STEVEN TEPIKIAN, NICHOLAOS TSOUFAS, JEFF WOOD, YIN YIP, Brookhaven National Lab, USA, MASAHIRO OKAMURA, JUNPEI TAKANO, RIKEN, Japan, INDIANA UNIVERSITY, USA COLLABORATION, BROOKHAVEN NATIONAL LAB, USA COLLABORATION, RIKEN, JAPAN COLLABORATION — Siberian snakes have been employed to overcome spin resonances during polarized proton acceleration. Considering limited space in the AGS, strong partial snakes that rotate the spin by less than 180 degrees can be used to avoid the spin imperfection and intrinsic resonances in low energy accelerators. However, the tilt of spin away from the vertical direction may become sensitive to horizontal betatron motion which can also cause spin depolarization. These resonances, called horizontal intrinsic spin resonances, have been observed in simulations. Preliminary measurements with beam were also carried out in AGS 2005 polarized proton run. During the AGS 2006 run, we plan to explore the details about the horizontal intrinsic resonances further. This paper describes the experimental methods and the latest results.

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