A measurement of b_1 is further motivated by its connection with the spin 1 angular momentum sum rule [1]. First of all, by examining the energy momentum tensor for the deuteron in Ref.[1] it was possible to define an additional sum rule for b_1 (see Eq.(12) in Ref.[1]) where it was shown that the second moment of this quantity is non vanishing, being related to one of the gravitomagnetic deuteron form factors. This experiment would provide a unique test of this idea. It is also important to notice that b_1 singles out the role of the D-wave component in distinguishing coherent nuclear effects through tensor polarized correlations from the independent nucleon's partonic spin structure. A similar role of the D-wave component was also found in the recently proposed spin sum rule where it plays a non trivial role producing a most striking effect through the spin flip GPD E. An experimental measurement of b_1 would corroborate this scenario.

[1] S. K. Taneja, K. Kathuria, S. Liuti and G. R. Goldstein,
"Angular momentum sum rule for spin one hadronic systems"
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