

Meeting: 1003, Atlanta, Georgia, MAA CP D1, MAA Session on Mathematics and Sports, I

1003-D1-307 **J. Scott Billie*** (am6996@usma.edu), Department of Mathematical Sciences, 646 Swift Road, West Point, NY 10996, **Michael Huber** (am6996@usma.edu), Department of Mathematical Sciences, 646 Swift Road, West Point, NY 10996, and **Michael Phillips** (am2022@usma.edu), Department of Mathematical Sciences, 646 Swift Road, West Point, NY 10996. *Who will throw the next no-hitter? Modeling rare baseball events with a Poisson Distribution.* Preliminary report.

How often do no-hitters and hitting for the cycle occur in a regular baseball season? How many no-hitters should we expect to see next season? There are several players who have hit for the cycle twice during their careers. How likely is it that someone else will do it twice in the same season? From a probability and statistics teaching standpoint, these two sets of incidents, pitching a no-hitter and hitting for the cycle, offer excellent examples of data sets that can be modeled by the Poisson Distribution. We have studied the inter-arrival times of the games for both sets and developed a simple statistical analysis for both data sets, including histograms with different bin sizes and goodness-of-fit tests, that can be used by teachers in an introductory probability and statistics course. (Received September 08, 2004)