Michael J.J. Barry* (mbarry@allegheny.edu), Department of Mathematics, Allegheny College, 520 N. Main St., Meadville, PA 16335. The Density Function of the First Occurrence of a Binary Pattern.

The probability density function associated with the first occurrence of a binary pattern in a sequence of independent Bernoulli trials was given in McDermott and Sheahan in The Distribution of First Occurrence of Patterns of Outcomes of Bernoulli Experiments, Mathematical Proceedings of the Royal Irish Academy 104A(1)(2004), 1–15. We give a simpler expression for it in terms of a unique family of homogeneous polynomials in two variables. In the process, we obtain a recurrence relation for the density function and we study the coefficients of the homogeneous polynomials. (Received September 17, 2009)