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Hong Biao Zeng* (hzeng@fhsu.edu), Department of Mathematics & Computer Science, 600 Park ST, Hays, KS 67601, and **Mohammad Riazi-Kermani**. *On a Geometric Power Series*.

In this paper, we study the closed formula for the following geometric power series: $F_k(x) = \sum_{n=1}^{\infty} x^n n^k$ where $|x| < 1$, $x \neq 0$, and k is a non-negative integer. The main result states that $F_k(x) = \sum_{i=1}^k c_{i,k} \frac{i!x^i}{(1-x)^{i+1}}$ where $c_{i,k}$ are the Stirling numbers of the second kind, i.e. $c_{i,k} = \frac{1}{i!} \sum_{j=0}^i (-1)^{i-j} \binom{i}{j} j^k$ (Received September 13, 2013)