1116-VW-283 **Ralph P. Grimaldi*** (grimaldi@rose-hulman.edu), 5500 Wabash Ave, Terre Haute, IN 47803.
Compositions with Descents at Odd Plus Signs.

For a positive integer n, a composition of n is an ordered summation $x_1 + x_2 + \cdots + x_r$, where $1 \leq r \leq n$, and $x_1 + x_2 + \cdots + x_n = n$. In general there are 2^{n-1} such compositions for n. We want to consider those compositions of n where $x_{2i-1} > x_{2i}$ for $i \geq 1$. For example, for $n = 9$, of the 256 compositions of 9, only 34 satisfy this condition. Three such compositions are $3+2+2+1+1$, $3+1+2+1+2$, and $4+3+2$. In general the number of such compositions is F_n, the n^{th} Fibonacci number.

For a given n, results derived for these compositions include:

(1) the total number of summands that occur;

(2) the number of summands in even and odd positions;

(3) the sums of all first, second, third, and fourth summands;

(4) the number of compositions with three and four summands; and,

(5) the number of times 1 occurs as a summand. (Received August 21, 2015)