Mark W. Coffey* (mcoffey@mines.edu), Department of Physics, 16th and Illinois Streets, Colorado School of Mines, Golden, CO 80401. An effective asymptotic formula for the Stieltjes constants.

The Stieltjes constants $\gamma_k(a)$ appear in the regular part of the Laurent expansion of the Hurwitz zeta function $\zeta(s,a)$ about its pole at $s = 1$ and the case $\gamma_k(1)$ [1] is of particular importance in analytic number theory. We present an asymptotic expression for $\gamma_k(a)$ for $k \gg 1$ that encapsulates both the leading rate of growth with $k$ and the oscillations with $k$ and $a$. This result is effective for computation, giving accurate values for both magnitude and sign for even moderate values of $k$. Comparison to some other work is made. Joint work with Charles Knessl.