1056-11-1056 **David C. Torney*** (dtorney@valornet.com), 5 Sky High Way, Jemez Springs, NM 87025.
Prime Tuples.

Consider h-tuples of prime integers with fixed increments: $(p, p+2k_1, p+2k_2, \ldots, p+2k_{h-1})$; $2 \le h \in \mathbb{N}, k_1 < k_2 < \cdots < k_{h-1} \in \mathbb{N}$. These are *feasible* when having $> h$ instances. The infinitude of prime pairs has been an enduring open conjecture; proof of the infinitude for feasible prime h-tuples involves the following.

P. Kurlberg's Thm. 4, in *Intl. J. Num. Theory*, **5(3)**, 489-513 (2009) ensures polynomials $f \in \mathbb{Z}[x]$, $x \in \mathbb{Z}$ have range, modulo square-free $q \to \infty$, with null intersection with intervals of L consecutive integers with asymptotic probability $\exp\{-\rho L\}$, ρ denoting the density of the range. An f is specified with respective range intersecting $[p_n+1, p_n+2 \ldots, p_n^2 - 2k_{h-1}]$; $n \in \mathbb{N} - 1$, only in integers which commence an h-tuple. The first entries of these h-tuples are non-congruent, mod p, to any member of $\{0 \cup_{j=1}^{h-1} -2k_j \pmod{p}\}$; $p = p_2, p_3, \ldots, p_n$. f derives from degree-$(p_i - 1)$ polynomials whose ranges are the respective, allowed congruences; $i = 2, 3, \ldots, n$. It is established that $[p_n+1, p_n+2, \ldots, p_n^2]$ must asymptotically contain an instance of the given prime h-tuple. (Received September 20, 2009)