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**Neil Lyall\*** (lyall@math.uga.edu), Department of Mathematics, Athens, GA 30602, and **Alex Rice**. *Improvements and Extensions of Two Theorems of Sarkozy.*

We will discuss improvements and generalizations of two theorems of Sarkozy, the qualitative versions of which state that any subset of the natural numbers of positive upper density necessarily contains two distinct elements which differ by a perfect square, as well as two elements which differ by one less than a prime number, confirming conjectures of Lovasz and Erdos, respectively. Specifically, we shall discuss the recent thesis work of Alex Rice. (Received September 03, 2012)