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**Angel V Kumchev\*** (akumchev@towson.edu), Department of Mathematics, Towson University, Towson, MD 21252, and **Taiyu Li**. *Applications of sieve methods to some additive problems about squares of primes*. Preliminary report.

We will discuss several recent applications of prime-detecting sieve methods to problems in additive prime number theory involving squares of primes. These include joint work of the presenter with J.Y. Liu and G. Harman on exceptional sets for sums of three and four squares of primes as well as recent work of the authors on sums of "almost equal" squares of primes. (Received January 25, 2011)