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Richard C. Burge* (r3769@aol.com). *A Randomized Variant of the Jacobi-Perron Algorithm*. Preliminary report.

A randomized variant of the classic Jacobi-Perron algorithm will be presented along with experimental evidence that demonstrates the method's utility in finding good simultaneous diophantine approximations. Particular applications of the method that will be discussed include: finding solutions to the cubic analogue of Pell's equation; detecting integer relations; and finding solutions to certain instances of the extended gcd problem. (Received August 17, 2005)