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Wei-Kai Lai* (laiw@mailbox.sc.edu), 807 Hampton Street, Walterboro, SC 29488, and
Christian Kalacanic (ckalaca@g.clemson.edu). *The Power Tower and the Digital Root.*

The power tower of a positive integer is defined as the iterated exponentiation of the integer. If the number is iterated for n times, it is called a power tower of order n . Obviously, the value of a power tower hugely increases when the order increases, and that makes it hard to analyze the properties of power towers. In this talk, we will focus on its digital root, and introduce the pattern we found during our study, using congruence. (Received January 18, 2016)