1021-03-186 **Stephen Binns*** (binns@math.uconn.edu), Department of Mathematics, 196 Auditorium Rd, Storrs, CT 06269-3009. *Subsystems of 2nd-order arithmetic below WKL_0.*

In the study of subsystems of 2nd-order arithmetic the system WKL_0 requires that every infinite binary tree have a path. But by requiring this only of certain classes of infinite binary trees (for example trees of positive measure) it is known that one can get strictly weaker systems (eg WWKL_0 - a system that illuminates the concept of randomness).

We investigate a different class of trees and get a principle VSMALL below WKL_0 that is independent of WWKL_0 over RCA_0 and having a connection to the idea of complexity. We show that there is a non-trivial subsystem of second order arithmetic that contains no complex element.

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