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Hoon Hong* (hong@math.ncsu.edu), Department of Mathematics, Campus Box 8205, North Carolina State University, Raleigh, NC 27695. *Root Bound for Pham Systems*. Preliminary report.

Root bound plays an important role in isolating and approximating the roots of polynomial equations, analyzing their computational complexity, etc. In this talk, we briefly review root bounds for one univariate polynomial and multivariate polynomial system. Then, we describe a root bound for Pham systems, which are certain “nice” multivariate polynomial systems. We show that the root bound is much tighter than the one for arbitrary multivariate polynomial system. We hope that the tighter bound would be useful for obtaining faster algorithms for isolating/approximating the roots of Pham system. (Received January 10, 2009)