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Benjamin Akers* (akers@math.uic.edu). *Applications of perturbation series.*

Applications of perturbation series are presented, with historical perspective. Perturbation methods for roots of polynomials are compared with similar methods for water wave problems. The role of resonances in perturbation series is explored. Modern boundary perturbation methods for solving the water wave problem are motivated. (Received August 25, 2009)