1046-40-905 **Mokhtar Aouina*** (mokhtar.aouina@jsums.edu), Department of Mathematics, Jackson State University, Jackson, MS 39217, and **Mohammad Khadivi** (mohammad.reza.khadivi@jsums.edu), Depatment of Mathematics, Jackson State University, Jackson, MS 39217. *Treating Power Series Through Topoliogical Concepts.*

We will show how we can apply the essential topological ideas to power series in order to rectify the pitfalls related to the nth root test and the ratio test covered in calculus textbooks. We offer a new approach that will leads to the main theorem about the computation of the radius of convergence of any power series. In this talk, we adopted the Heine-Borel theorem as a definition for a compact set. We associated to a given sequence a closed set. The characterization of the aforementioned closed set results in retrieving Bolzano-Weierstrass theorem. The least upper bound of the closed set computes the radius of convergence of a power series with coefficients equal to the terms of the sequence respectively. We will present problems for which both nth root test and ratio test fail while our method will settle the domain of convergence. (Received September 12, 2008)