Finite Size Scaling with Gaussian Basis Sets SABRE KAIS, WIN- 
TON MOY, Purdue University, PABLO SERRA, Cordoaba University — We have 
developed the finite size scaling method, which is based on taking the number of 
elements in a complete basis set as the size of the system, to calculate the critical 
parameters for a given quantum system using Gaussian basis sets. We studied the 
Yukawa potential and Helium-like systems by expanding the system with a Gaussian 
basis. The finite size scaling approach was then used with the ab initio methods to 
find the critical parameters of atomic and molecular systems.