

# Bohr Hamiltonian Calculations for the Er Isotopic Chain

David Muir

October 23, 2021

# List of Figures

1	Bohr Hamiltonian calculations for the $2_1$ states of the Er isotopic chain with the UNEDF0 functional.	2
2	Bohr Hamiltonian calculations for the $3_1$ states of the Er isotopic chain with the UNEDF0 functional.	2
3	Bohr Hamiltonian calculations for the $4_1$ states of the Er isotopic chain with the UNEDF0 functional.	3
4	Bohr Hamiltonian calculations for the $5_1$ states of the Er isotopic chain with the UNEDF0 functional.	3
5	Bohr Hamiltonian calculations for the $6_1$ states of the Er isotopic chain with the UNEDF0 functional.	3
6	Bohr Hamiltonian calculations for the $7_1$ states of the Er isotopic chain with the UNEDF0 functional.	4
7	Bohr Hamiltonian calculations for the $8_1$ states of the Er isotopic chain with the UNEDF0 functional.	4
8	Bohr Hamiltonian calculations for the $0_2$ states of the Er isotopic chain with the UNEDF0 functional.	4
9	Er isotopic chain potential energy surfaces.	6

## Er Isoptic Chain Analysis

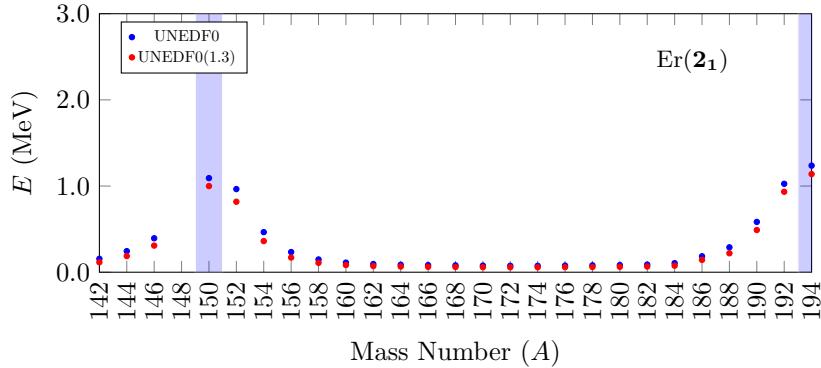


Figure 1: Bohr Hamiltonian calculations for the  $2_1$  states of the Er isotopic chain with the UNEDF0 functional.

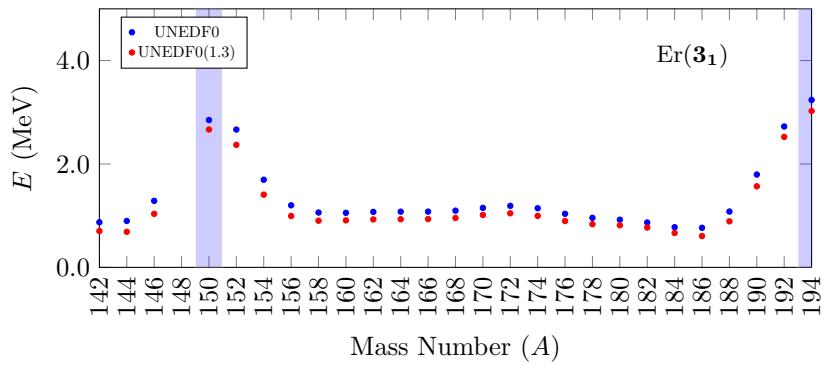


Figure 2: Bohr Hamiltonian calculations for the  $3_1$  states of the Er isotopic chain with the UNEDF0 functional.

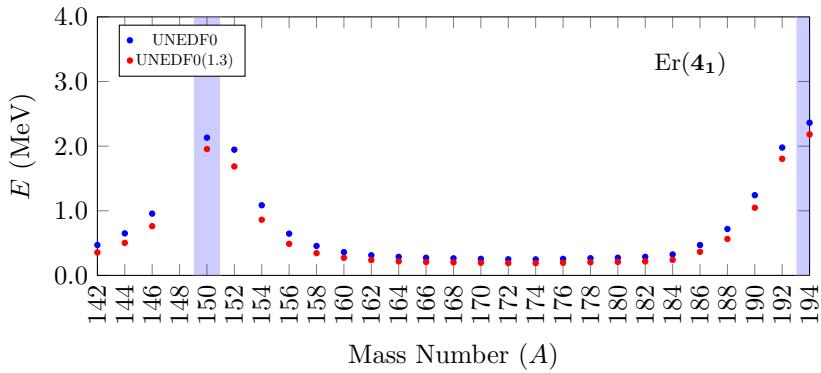


Figure 3: Bohr Hamiltonian calculations for the  $4_1$  states of the Er isotopic chain with the UNEDF0 functional.

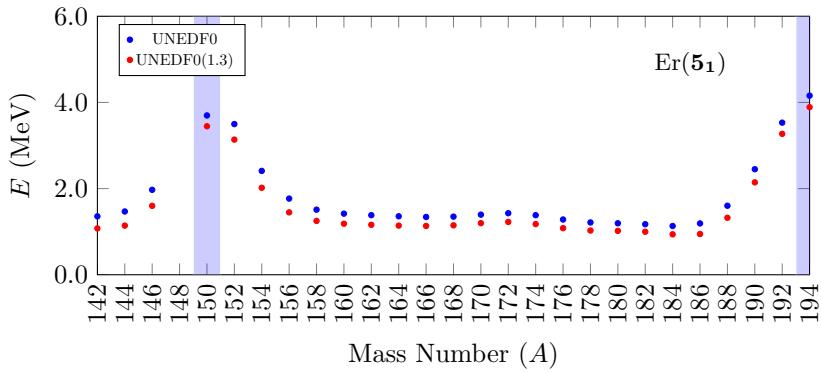


Figure 4: Bohr Hamiltonian calculations for the  $5_1$  states of the Er isotopic chain with the UNEDF0 functional.

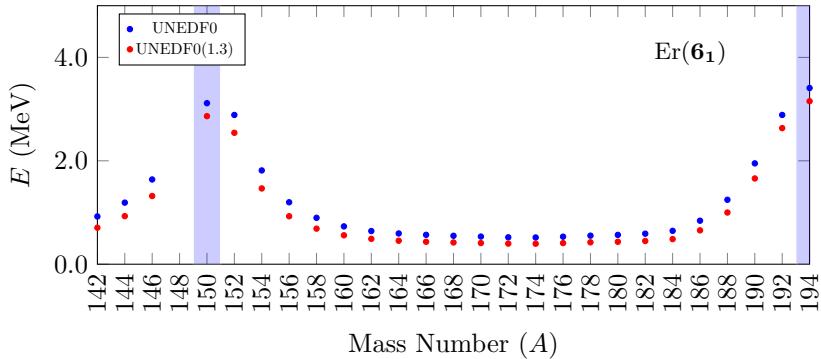


Figure 5: Bohr Hamiltonian calculations for the  $6_1$  states of the Er isotopic chain with the UNEDF0 functional.

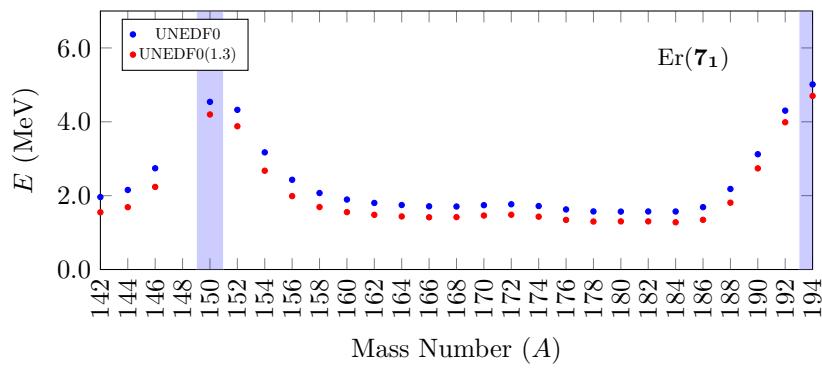


Figure 6: Bohr Hamiltonian calculations for the  $7_1$  states of the Er isotopic chain with the UNEDF0 functional.

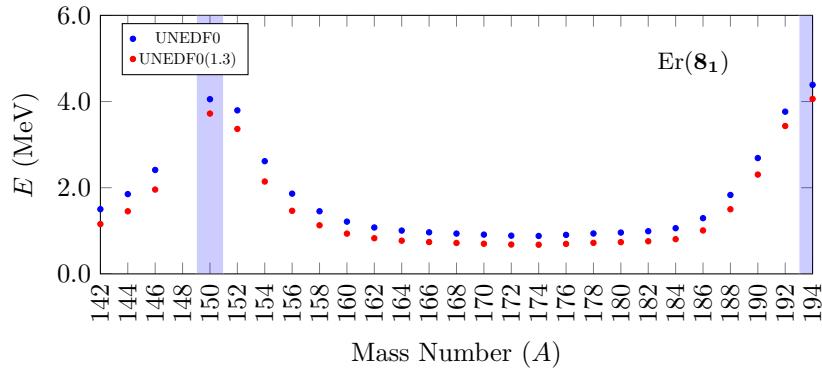
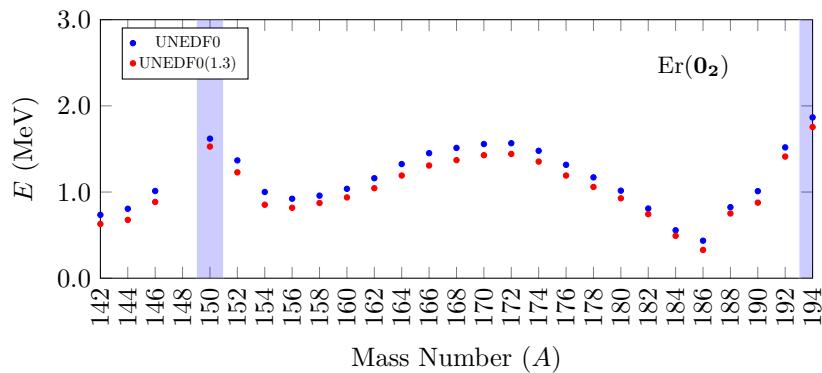
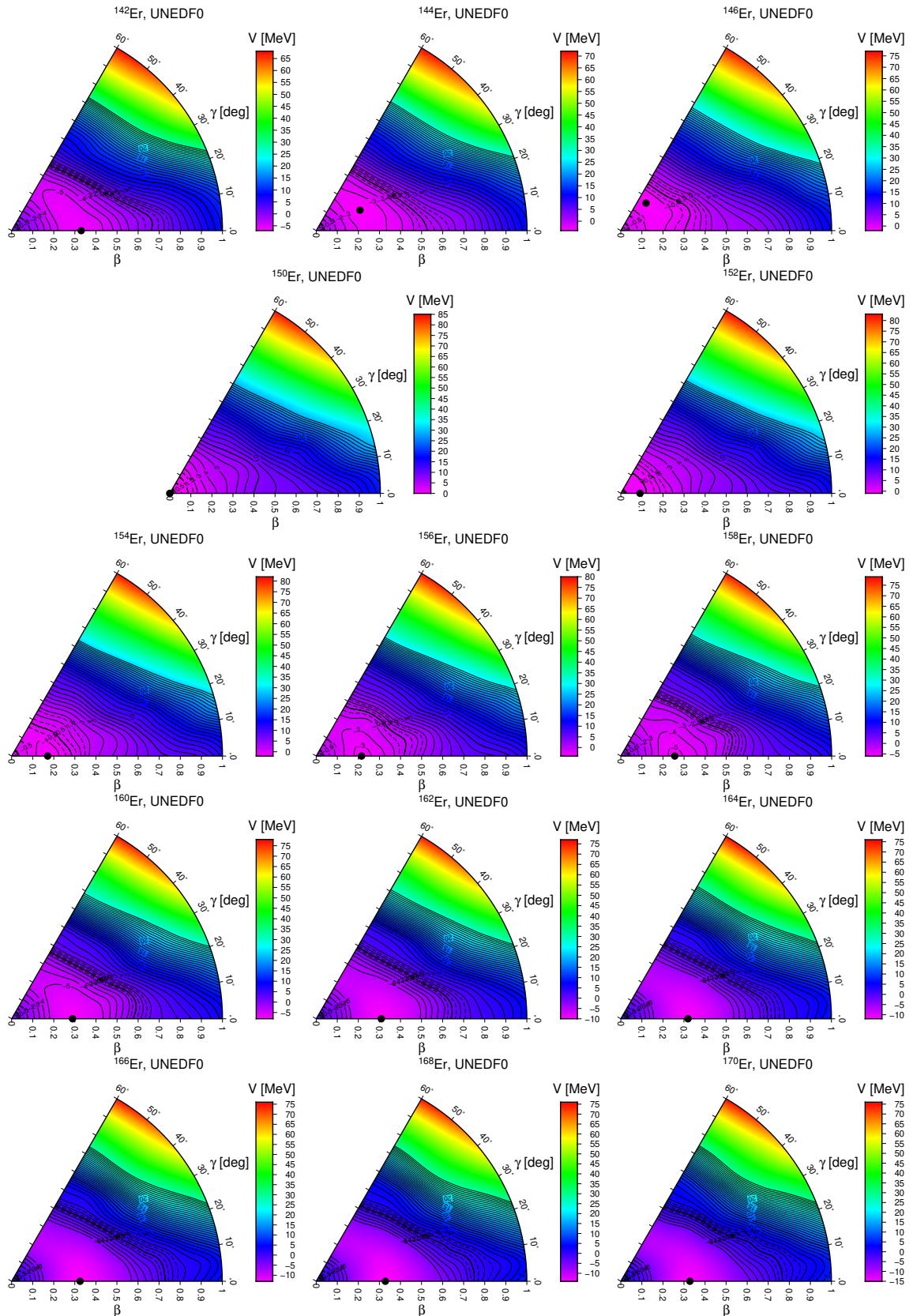


Figure 7: Bohr Hamiltonian calculations for the  $8_1$  states of the Er isotopic chain with the UNEDF0 functional.





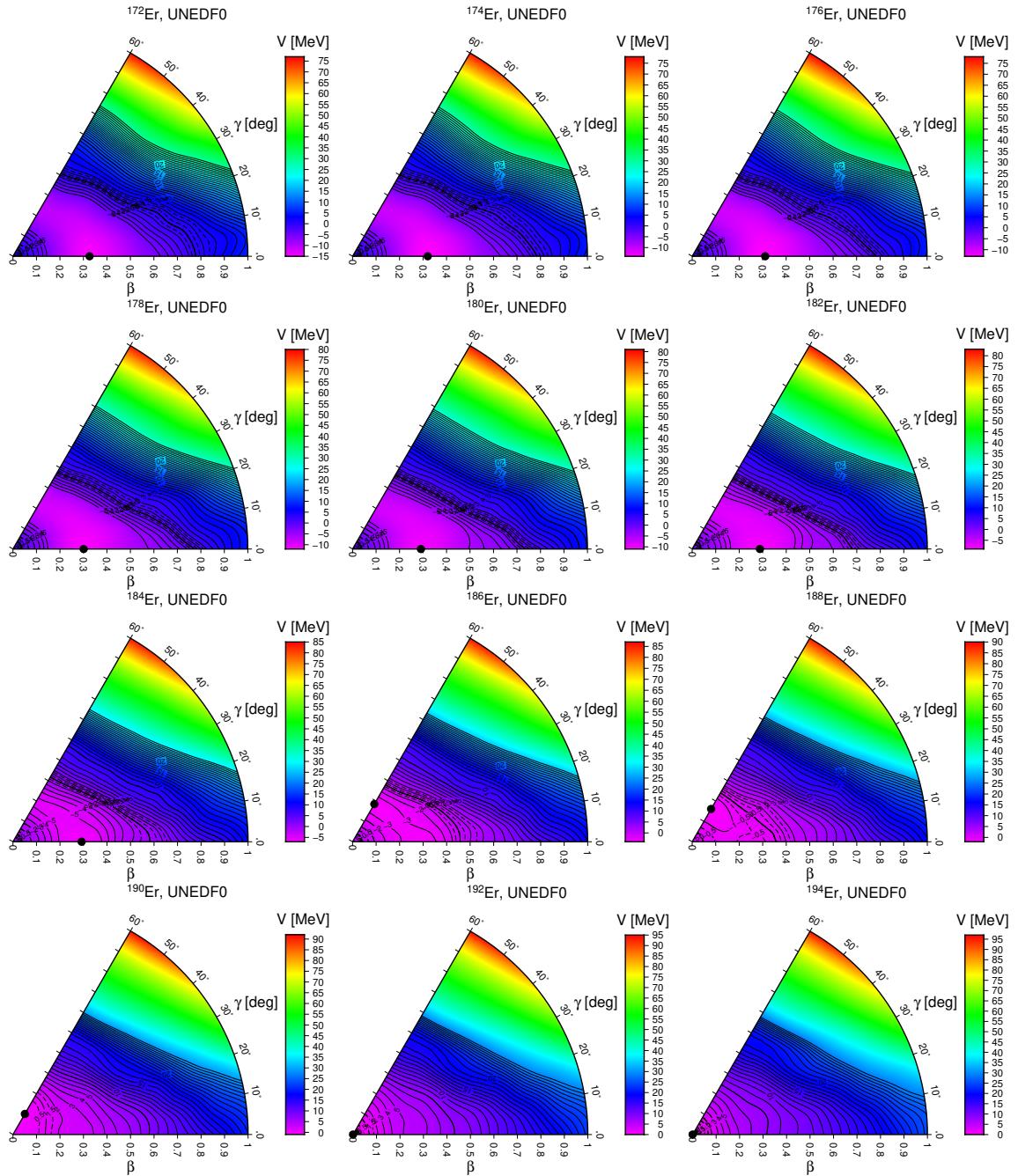


Figure 9: Er isotopic chain potential energy surfaces.