

# Bohr Hamiltonian Calculations for the Os Isotopic Chain

David Muir

October 23, 2021

# List of Figures

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

# Os Isotopic Chain Analysis

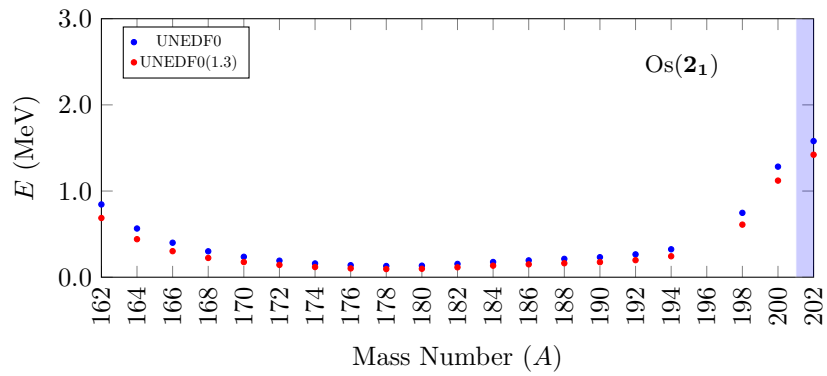


Figure 1: Bohr Hamiltonian calculations for the  $2_1$  states of the Os isotopic chain with the UNEDF0 functional.

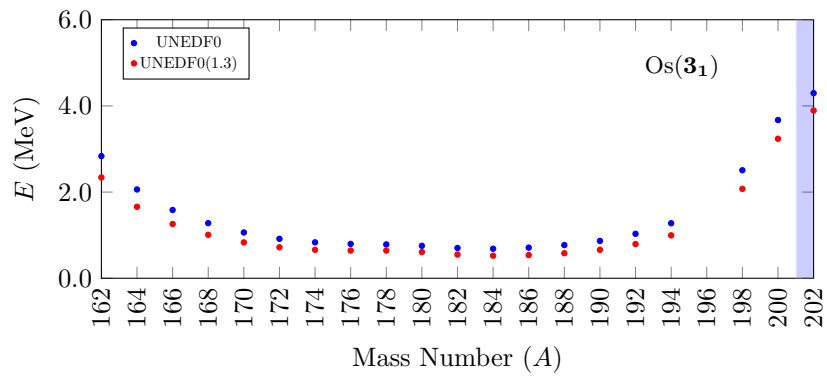


Figure 2: Bohr Hamiltonian calculations for the  $3_1$  states of the Os isotopic chain with the UNEDF0 functional.

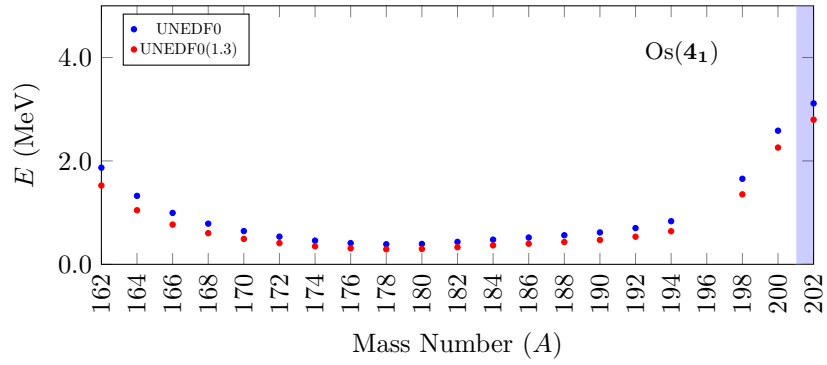


Figure 3: Bohr Hamiltonian calculations for the  $4_1$  states of the Os isotopic chain with the UNEDF0 functional.

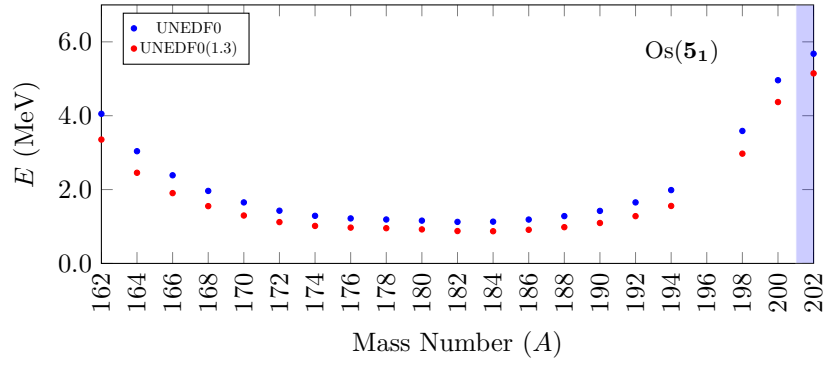


Figure 4: Bohr Hamiltonian calculations for the  $5_1$  states of the Os isotopic chain with the UNEDF0 functional.

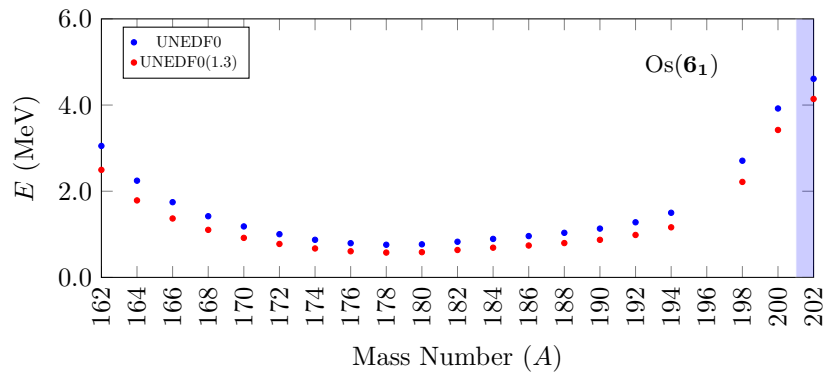


Figure 5: Bohr Hamiltonian calculations for the  $6_1$  states of the Os isotopic chain with the UNEDF0 functional.

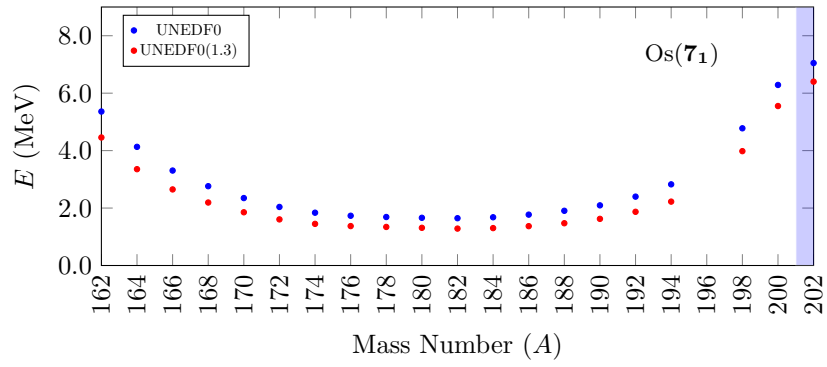


Figure 6: Bohr Hamiltonian calculations for the  $7_1$  states of the Os isotopic chain with the UNEDF0 functional.

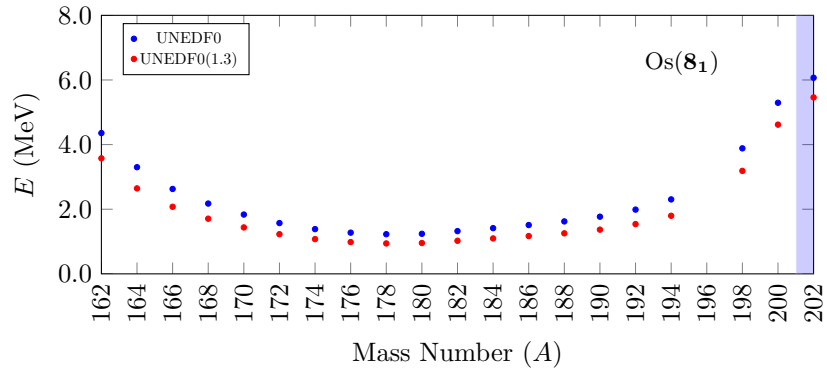


Figure 7: Bohr Hamiltonian calculations for the  $8_1$  states of the Os isotopic chain with the UNEDF0 functional.

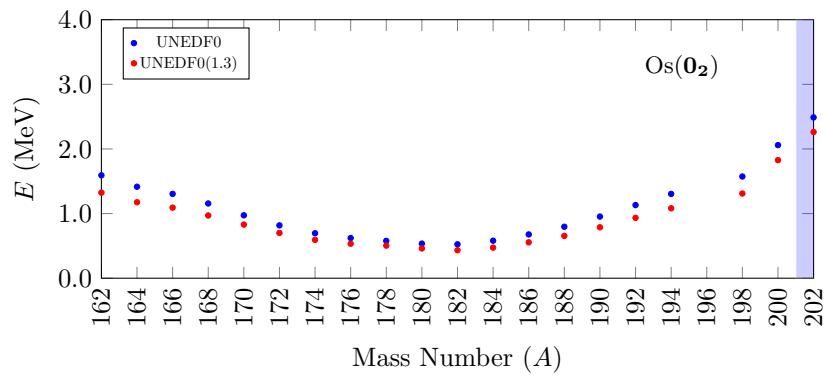
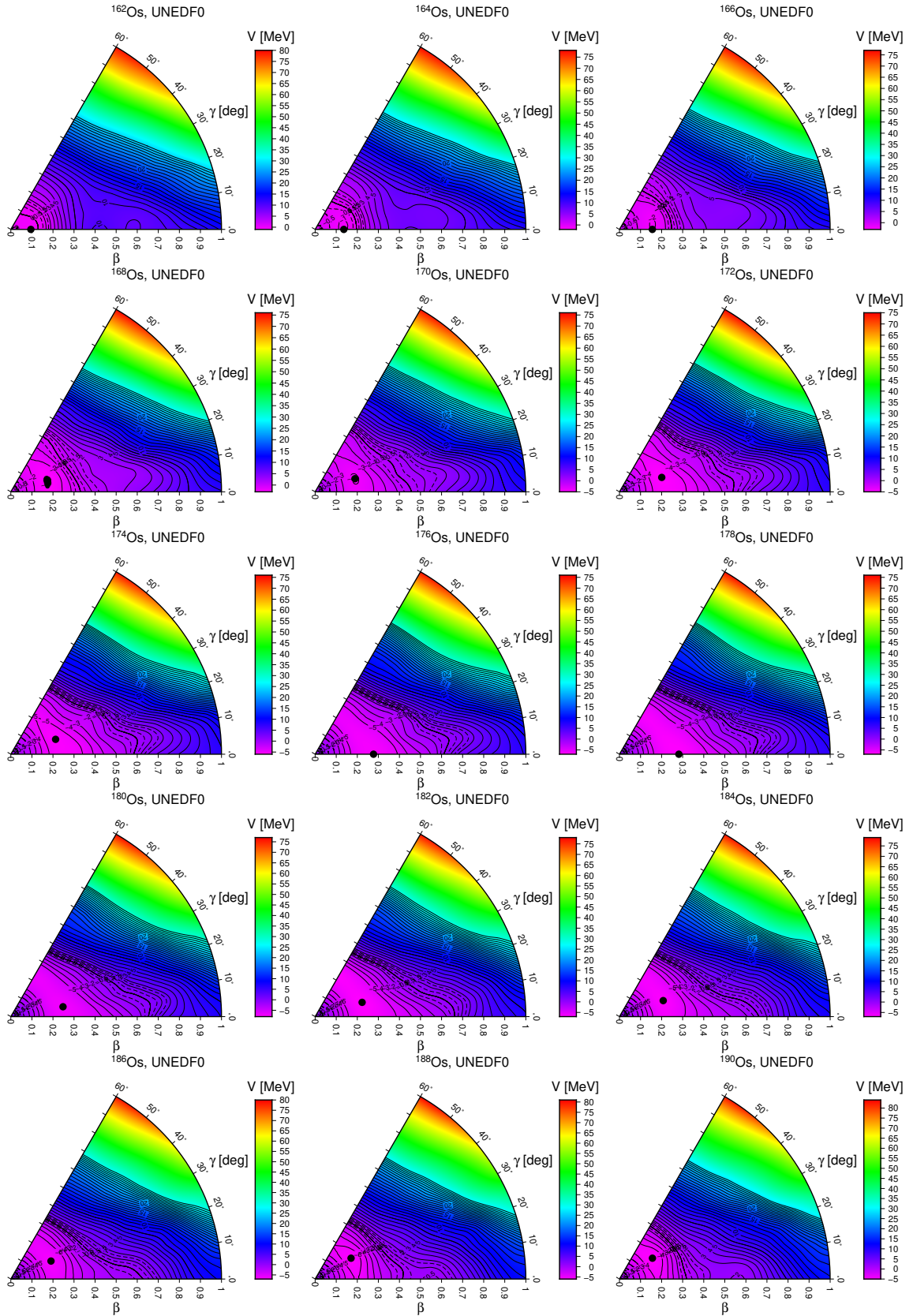


Figure 8: Bohr Hamiltonian calculations for the  $0_2$  states of the Os isotopic chain with the UNEDF0 functional.



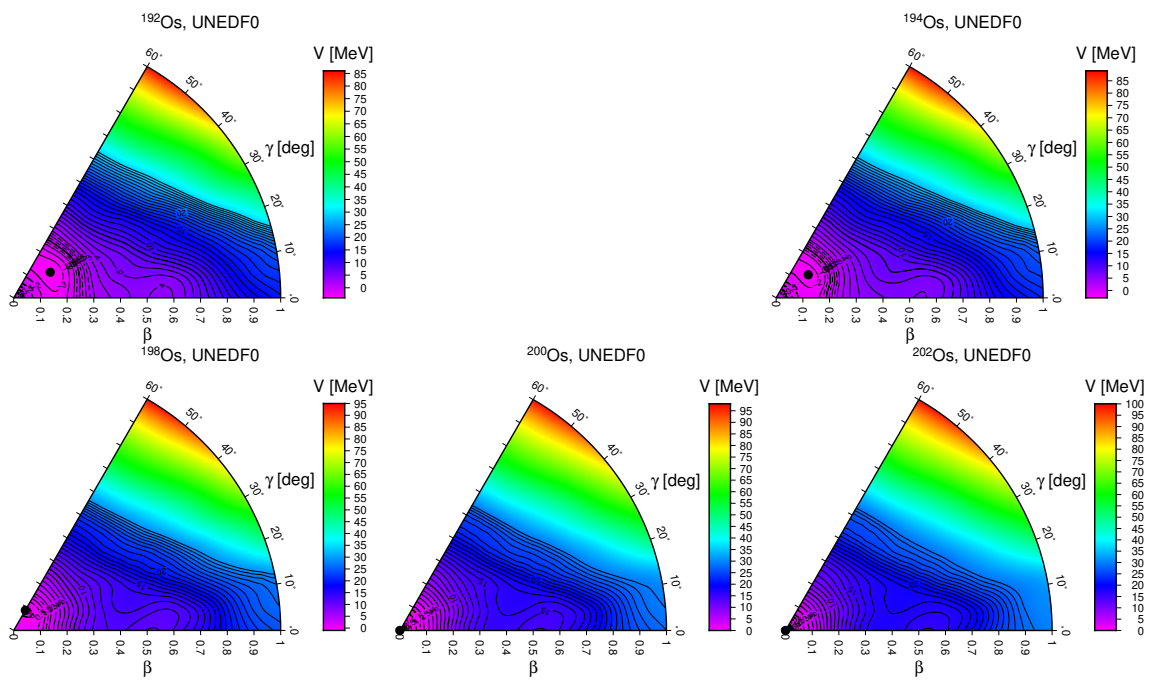


Figure 9: Os isotopic chain potential energy surfaces.