# Bohr Hamiltonian Calculations for the Ba Isotopic Chain

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# Ba Isoptic Chain Analysis

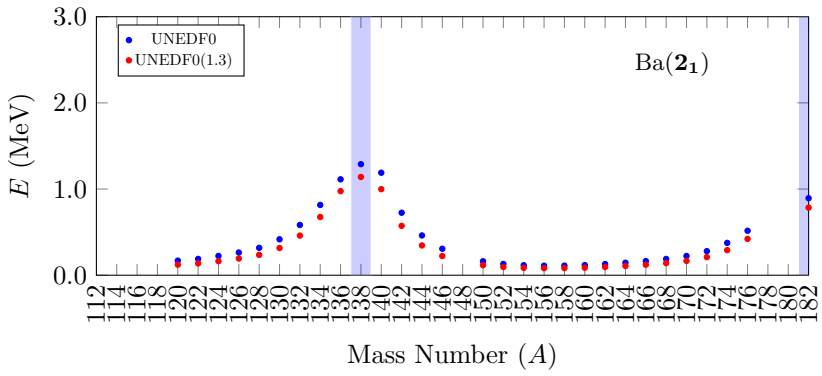



Figure 1: Bohr Hamiltonian calculations for the $2_1$ states of the Ba isotopic chain with the UNEDF0 functional.

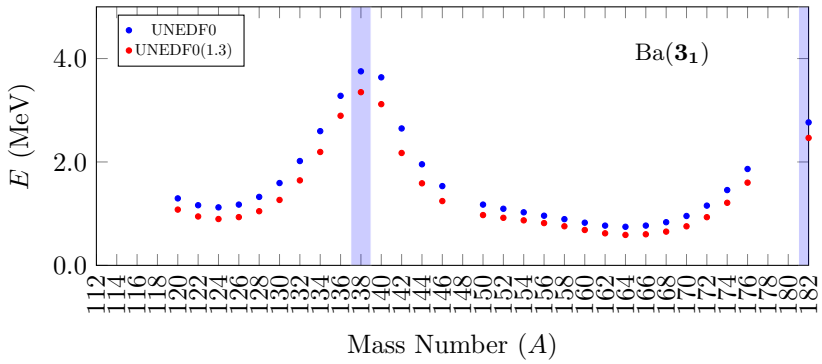



Figure 2: Bohr Hamiltonian calculations for the $3_1$ states of the Ba isotopic chain with the UNEDF0 functional.

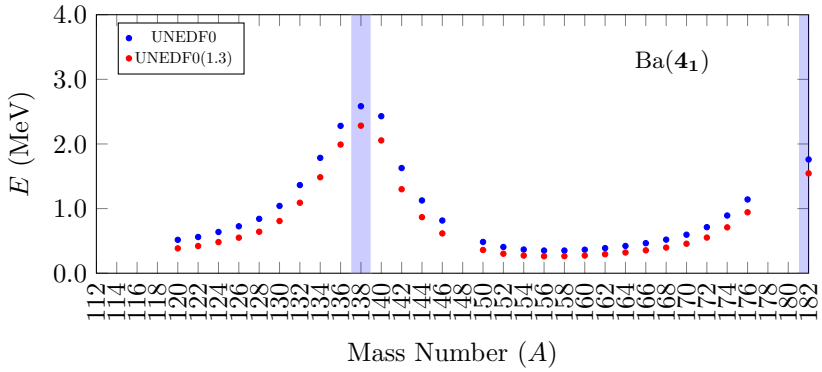



Figure 3: Bohr Hamiltonian calculations for the $4_1$ states of the Ba isotopic chain with the UNEDF0 functional.

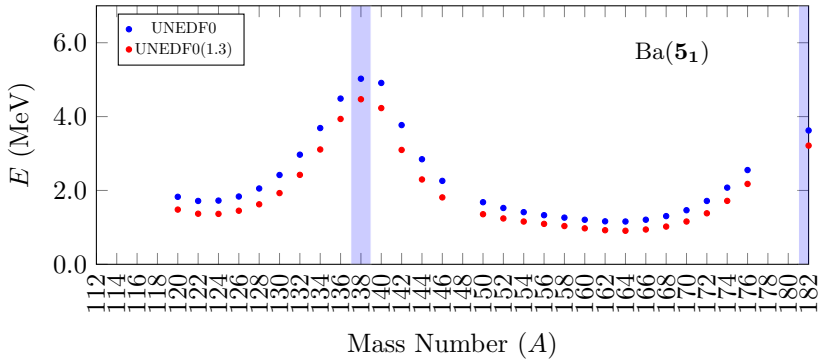



Figure 4: Bohr Hamiltonian calculations for the $5_1$ states of the Ba isotopic chain with the UNEDF0 functional.

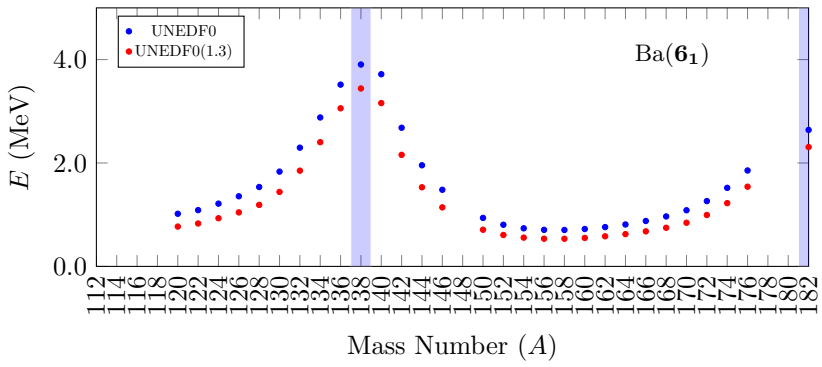



Figure 5: Bohr Hamiltonian calculations for the $6_1$ states of the Ba isotopic chain with the UNEDF0 functional.

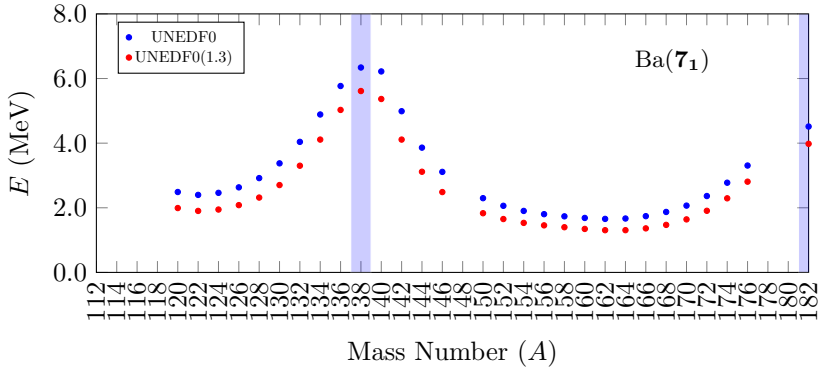



Figure 6: Bohr Hamiltonian calculations for the $7_1$ states of the Ba isotopic chain with the UNEDF0 functional.

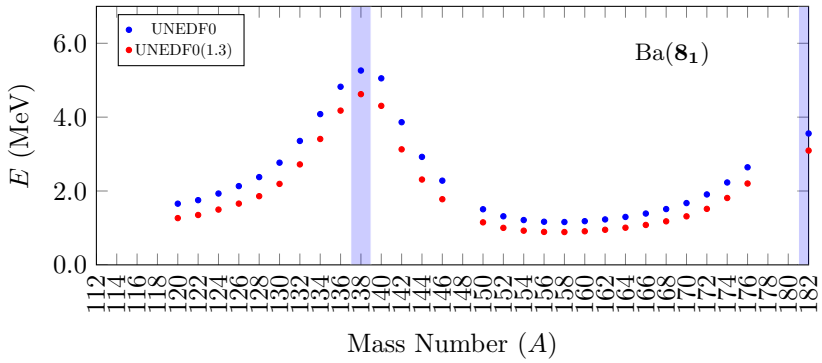



Figure 7: Bohr Hamiltonian calculations for the $8_1$ states of the Ba isotopic chain with the UNEDF0 functional.

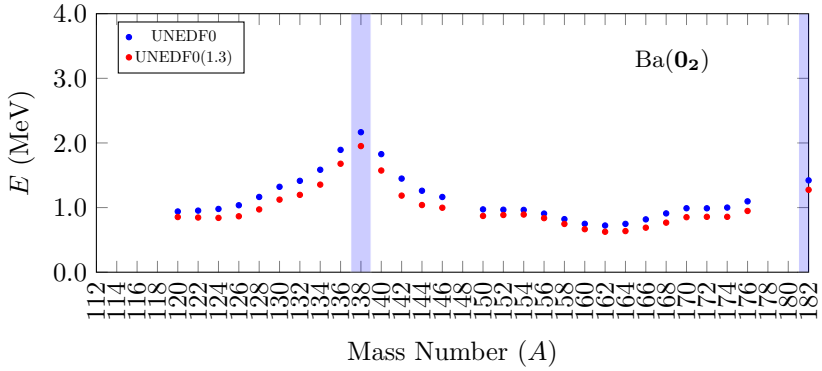
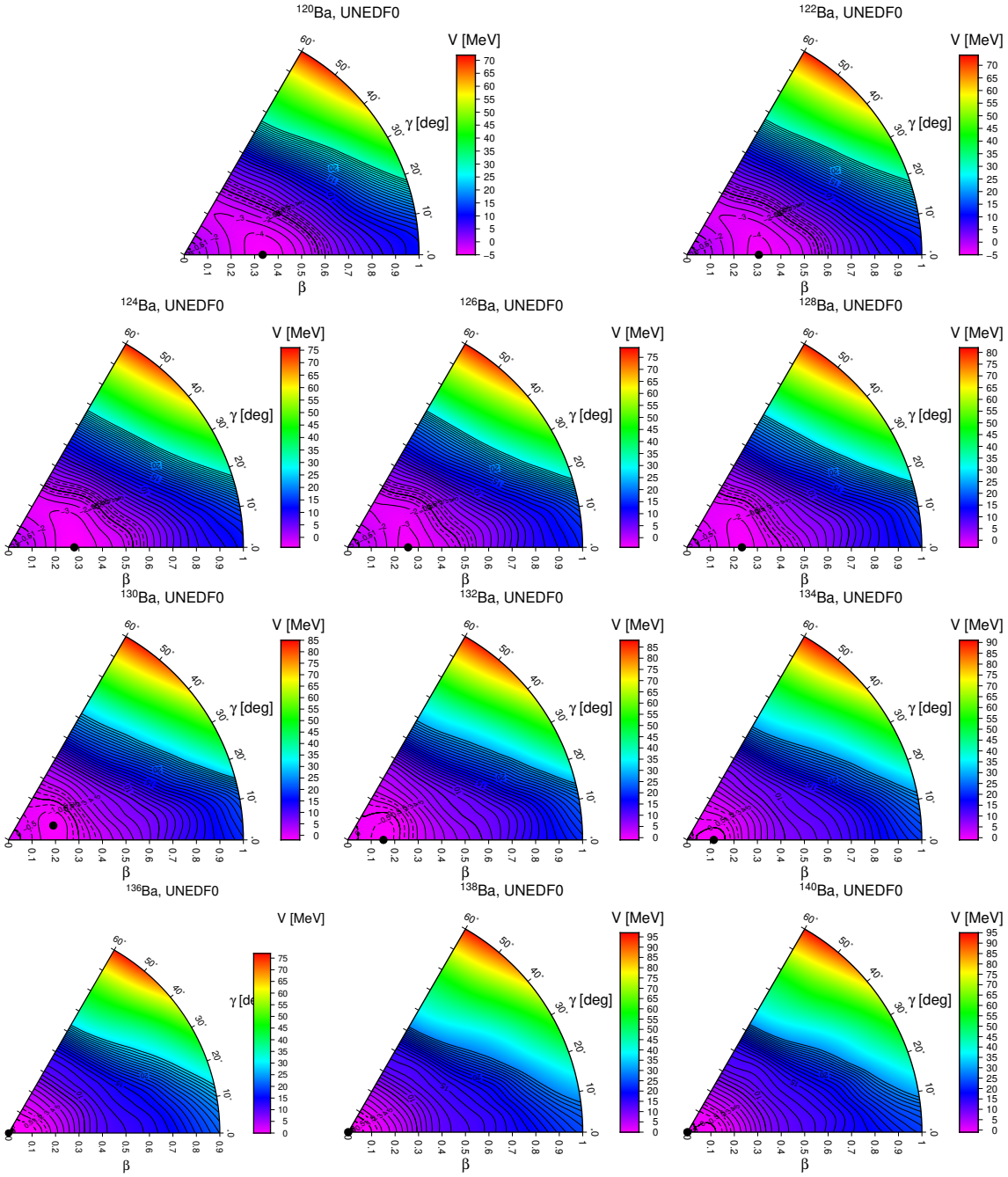
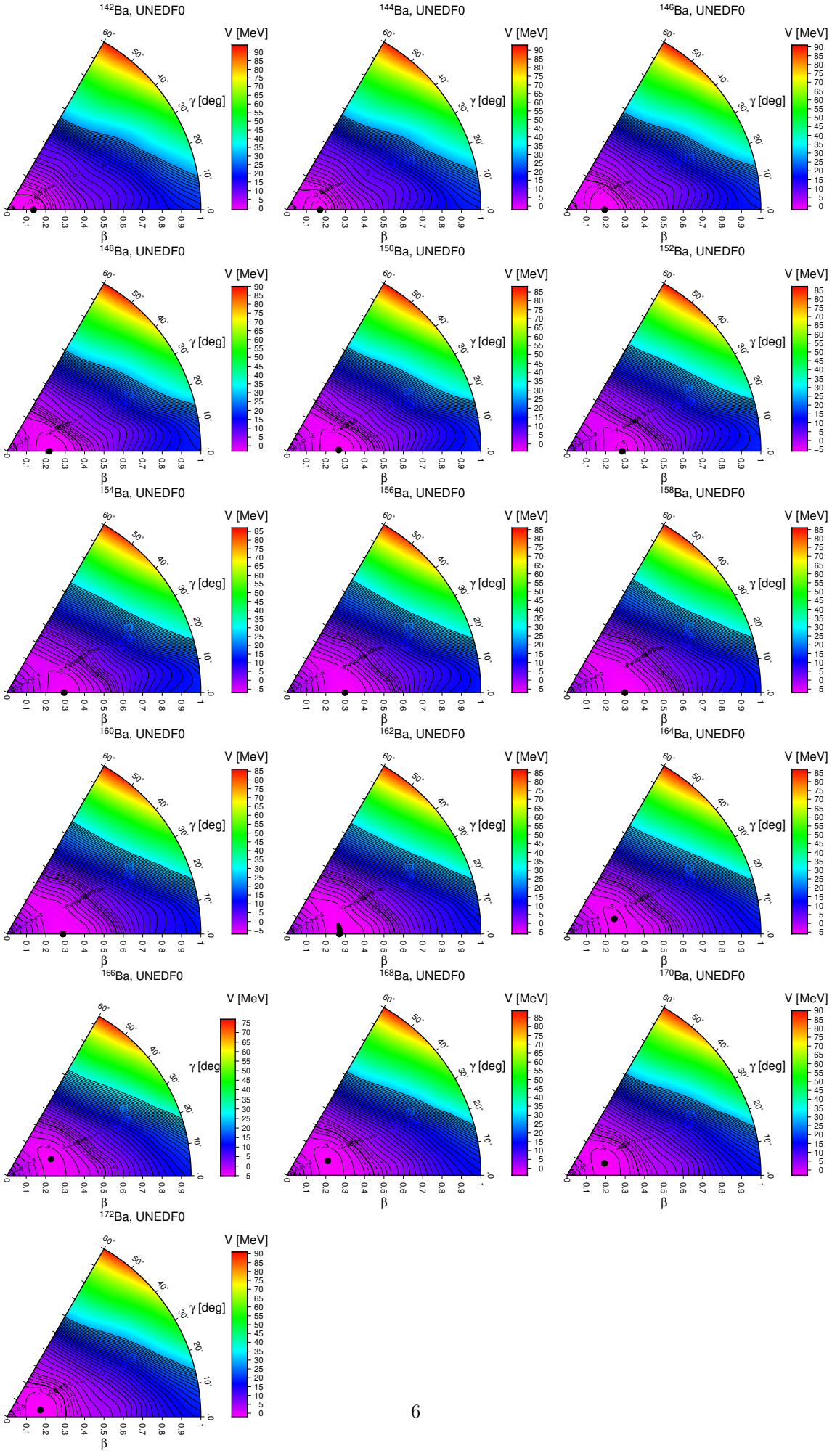



Figure 8: Bohr Hamiltonian calculations for the $0_2$ states of the Ba isotopic chain with the UNEDF0 functional.


120Ba, UNEDF0
122Ba, UNEDF0
124Ba, UNEDF0
126Ba, UNEDF0
128Ba, UNEDF0
130Ba, UNEDF0
132Ba, UNEDF0
134Ba, UNEDF0
136Ba, UNEDF0
138Ba, UNEDF0
140Ba, UNEDF0
V [MeV]
γ [deg]
β


142Ba, UNEDF0
144Ba, UNEDF0
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148Ba, UNEDF0
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152Ba, UNEDF0
154Ba, UNEDF0
156Ba, UNEDF0
158Ba, UNEDF0
160Ba, UNEDF0
162Ba, UNEDF0
164Ba, UNEDF0
166Ba, UNEDF0
168Ba, UNEDF0
170Ba, UNEDF0
172Ba, UNEDF0
V [MeV]
γ [deg]
β

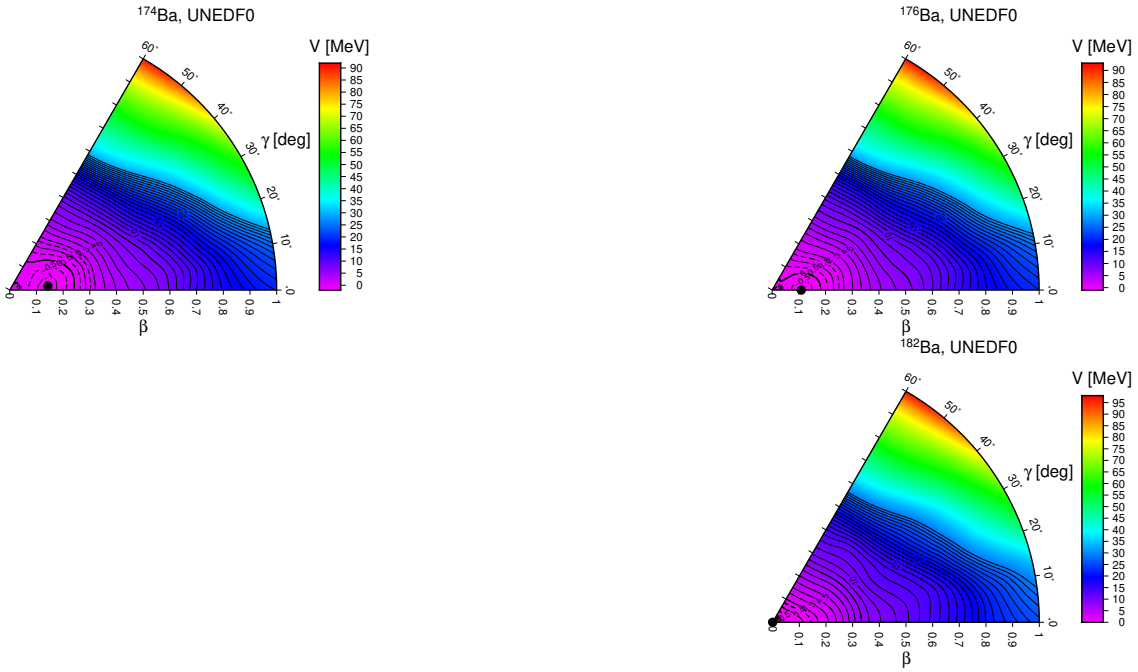


Figure 9: Ba isotopic chain potential energy surfaces.