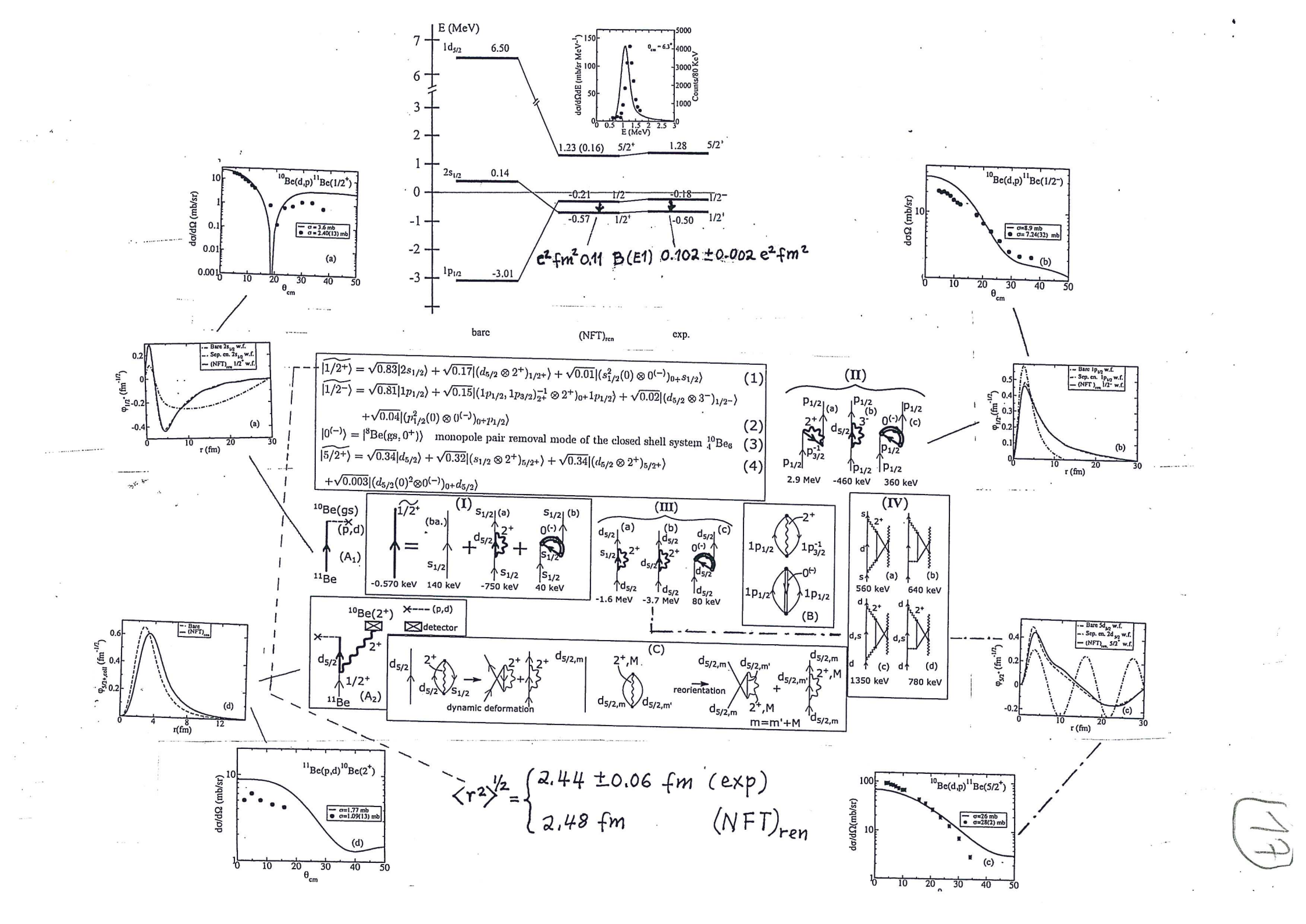
E (MeV)
1d5/2 6.50
1.23 (0.16) 5/2+ 1.28 5/2'
2s1/2 0.14
-0.21 1/2- -0.18 1/2-
-0.57 1/2+ -0.50 1/2'
1p1/2 -3.01
barc (NFT)rcn exp.
e²fm² 0.11 B(E1) 0.102 ±0.002 e²fm²
10Be(d,p)11Be(1/2+)
10Be(d,p)11Be(1/2-)
10Be(d,p)11Be(5/2+)
11Be(p,d)10Be(2+)
|1/2+⟩ = √0.83|2s1/2⟩ + √0.17|(d5/2 ⊗ 2+)1/2+⟩ + √0.01|(s²1/2(0) ⊗ 0(-))0+s1/2⟩ (1)
|1/2-⟩ = √0.81|1p1/2⟩ + √0.15|(1p1/2, 1p3/2)2+⁻¹ ⊗ 2+)0+1p1/2⟩ + √0.02|(d5/2 ⊗ 3-)1/2-⟩
+√0.04|(p²1/2(0) ⊗ 0(-))0+p1/2⟩ (2)
|0(-)⟩ = |8Be(gs, 0+)⟩ monopole pair removal mode of the closed shell system 10 4Be6 (3)
|5/2+⟩ = √0.34|d5/2⟩ + √0.32|(s1/2 ⊗ 2+)5/2+⟩ + √0.34|(d5/2 ⊗ 2+)5/2+⟩ (4)
+√0.003|(d5/2(0)²⊗0(-))0+d5/2⟩
(I)
(II)
(III)
(IV)
(A)
(B)
(C)
10Be(gs)
11Be
(p,d)
(A1)
10Be(2+)
detector
(A2)
-0.570 keV
140 keV
-750 keV
40 keV
-1.6 MeV
-3.7 MeV
80 keV
2.9 MeV
-460 keV
360 keV
560 keV
640 keV
1350 keV
780 keV
dynamic deformation
reorientation
m=m'+M
⟨r²⟩^1/2 = { 2.44 ±0.06 fm (exp)
2.48 fm (NFT)ren
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