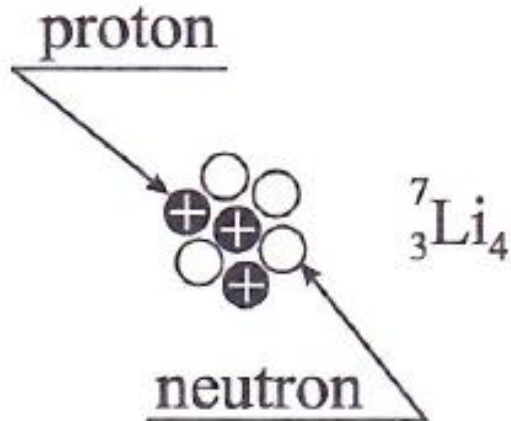


A5 & A6: Fysik B:28/9 2016

- Tilstedeværelsesregistrering
- Opsamling fra sidst.
- Nyt stof: **Kernefysik.**
 - Kernens opbygning, radioaktiv stråling. Side 138-139 & 141-144.
 - (Dog ikke 4. *Elektronindfangning*, side 143 og 6. *Induceret fission*, side 144).
 - Opgaver.15/1-15/2

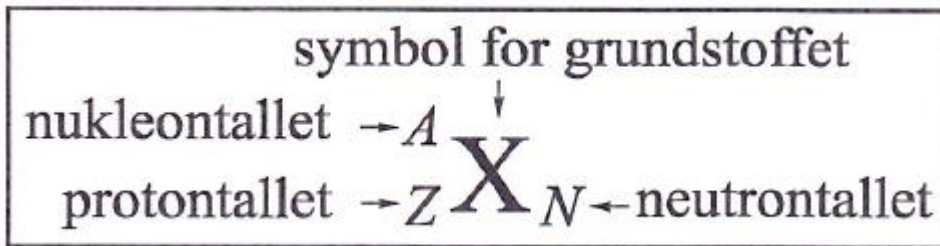
Kernefysik og stråling



Nuklidet Li - 7



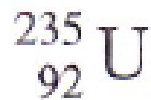
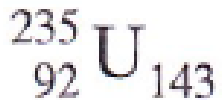
${}^{208}\text{Pb}$



Elektron: ${}^0_{-1}\text{e}$

Proton: ${}^1_1\text{p}$

Neutron: ${}^1_0\text{n}$



U-235

Isotoper

Eksempel

Beregn atommassen for naturligt forekommende chlor (Cl).

Chlor er en blanding af isotoperne Cl-35 og Cl-37 med en fordeling som vist i tabellen. Massen af Cl-35 er $m(\text{Cl-35}) = 34,96885$ u og massen af Cl-37 er $m(\text{Cl-37}) = 36,96590$ u. Heraf fås atommassen for chlor:

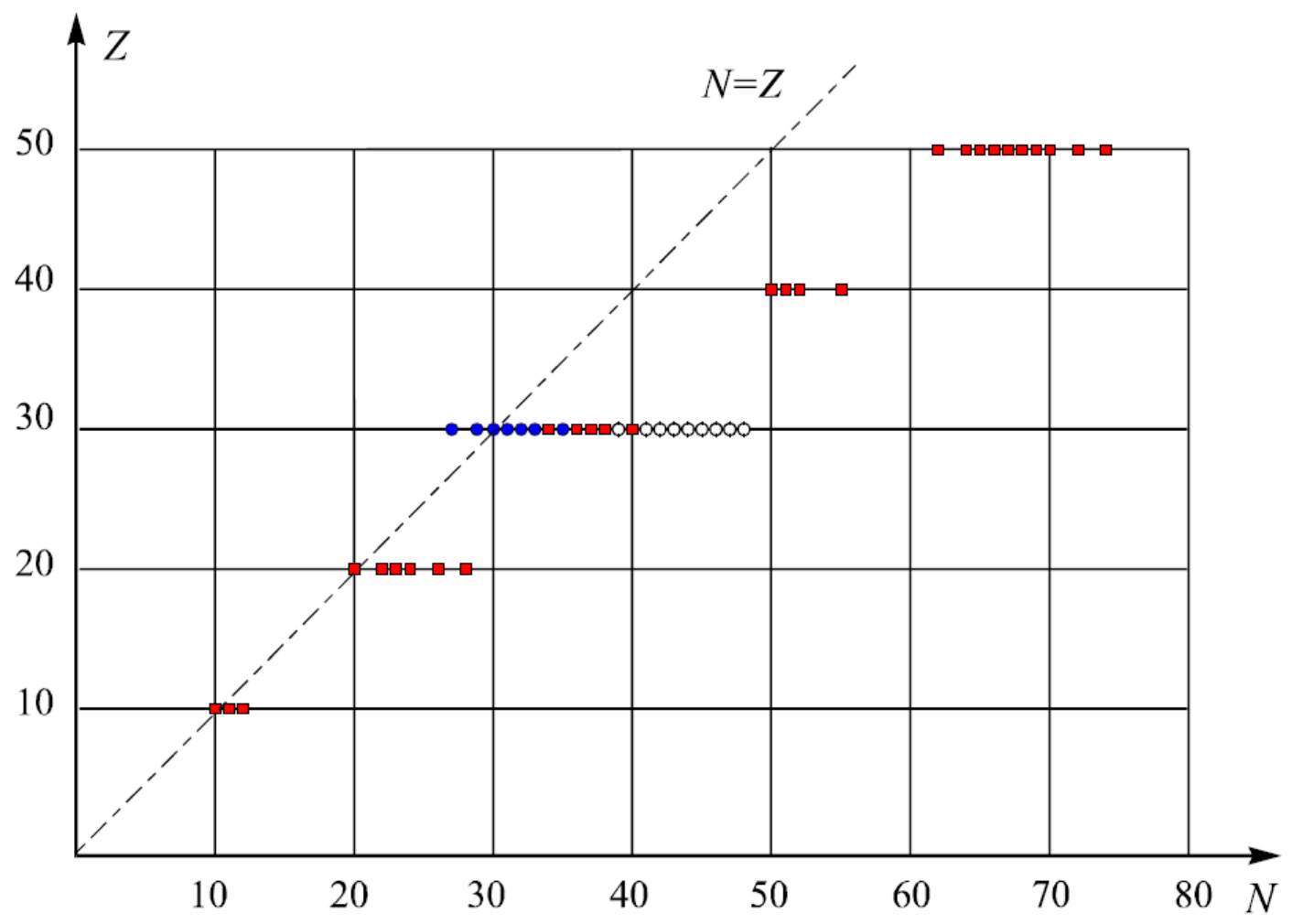
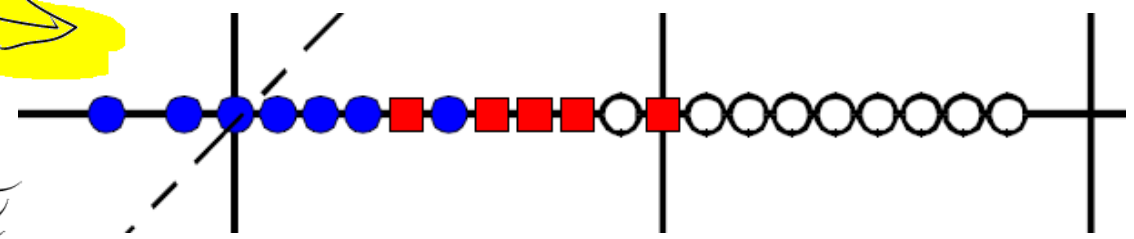
$$m_{\text{Cl}} = \frac{m(\text{Cl-35}) x_{35} + m(\text{Cl-37}) x_{37}}{100} \quad \text{hvor } x_{35} = 75,77 \text{ og } x_{37} = 24,23$$

$$m_{\text{Cl}} = \frac{34,96885 \text{ u } 75,77 + 36,96590 \text{ u } 24,23}{100} = 35,4527 \text{ u}$$

$$\underline{\underline{m_{\text{Cl}} = 35,4527 \text{ u}}}$$

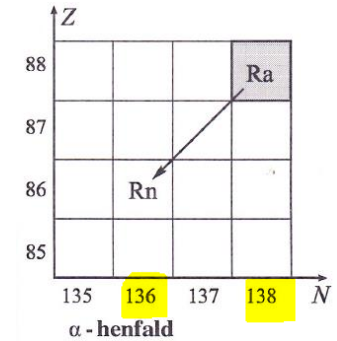
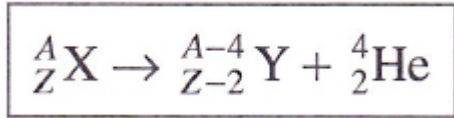
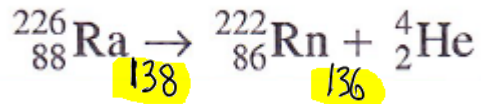
Stof	Z	A	%
H	1	1	99,985
		2	0,015
Li	3	6	7,42
		7	92,58
B	5	10	19,8
		11	80,2
Cl	17	35	75,77
		37	24,23
K	19	39	93,26
		41	6,73
Cr	24	50	4,35
		52	83,79
		53	9,50
		54	2,36
Ag	47	107	51,83
		109	48,17

KLIK PA
 OG KOM
 TIL OPLYSNING
 OM ISOTOPERNE

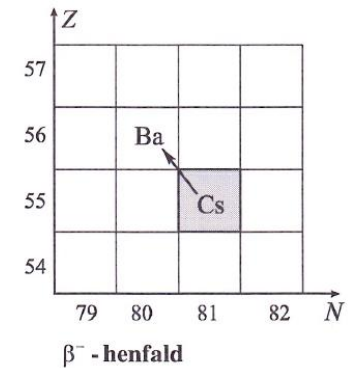
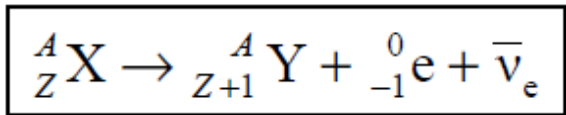
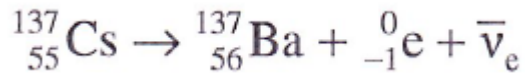


■ Stabile nuklider ● ○ Ustabile nuklider

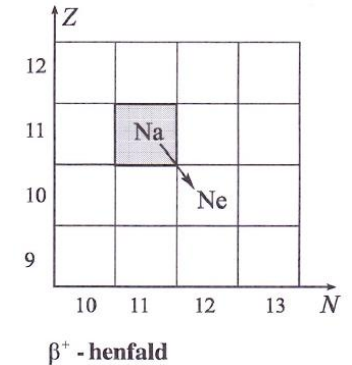
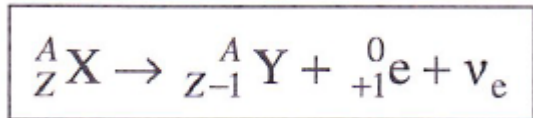
1. α -stråling ($\alpha = {}^4_2\text{He}$)



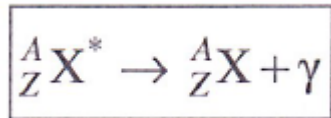
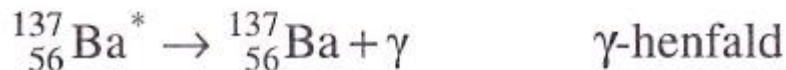
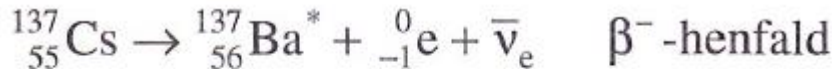
2. β^- -stråling ($\beta^- = {}^0_{-1}\text{e}$)



3. β^+ -stråling ($\beta^+ = {}^0_{+1}\text{e}$)



5. γ -stråling



Opgave 5 Del af eksamensopgave

En radioaktiv kilde består af 4,0 g Po-210, der henfalder ved α -henfald med halveringstiden 138 døgn.

- a) Angiv henfaldsskemaet for det radioaktive henfald.

Opgave 3 Del af eksamensopgave

Isotopen Na-22 henfalder ved et beta-plus henfald med halveringstiden 2,6 år

- a) Opskriv henfaldsskemaet.