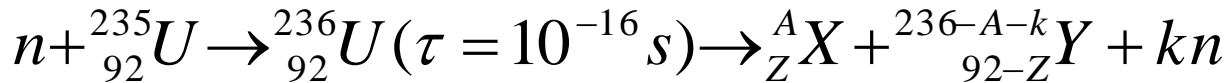
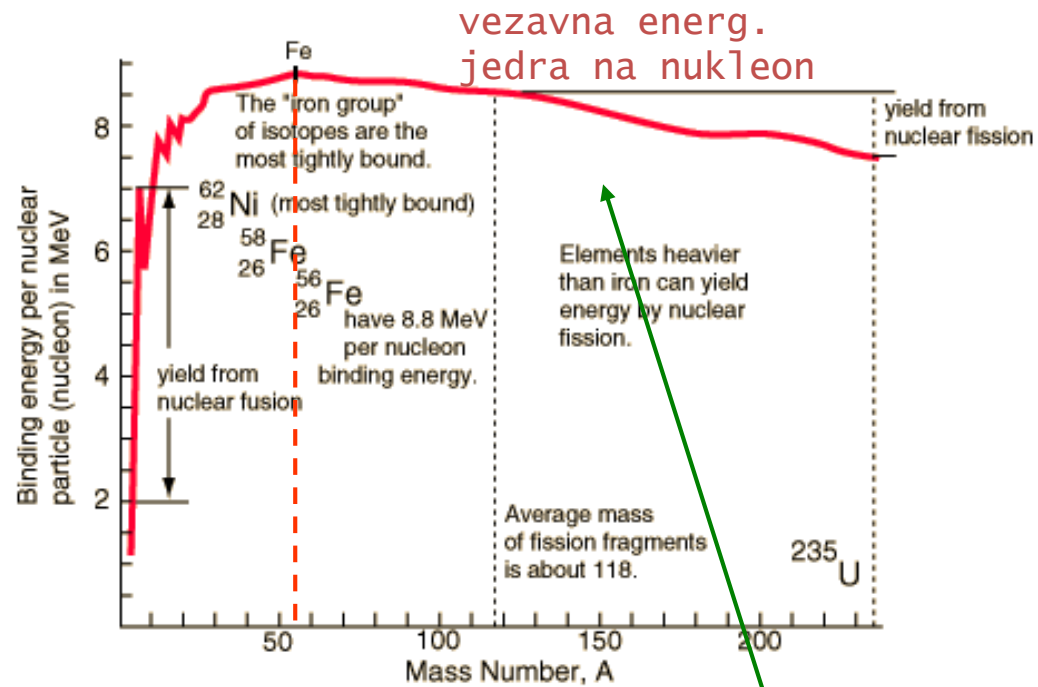
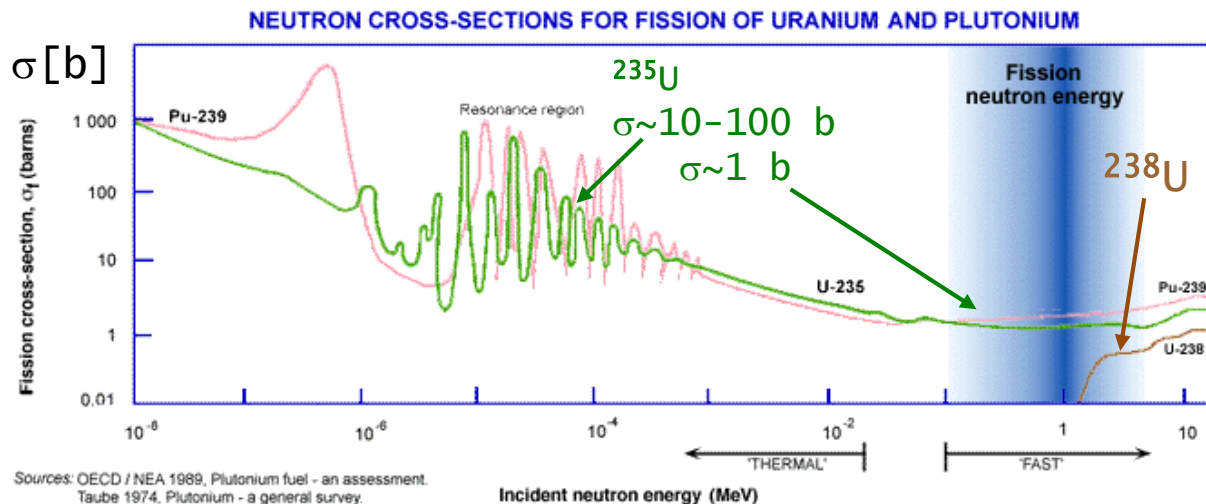


Cepitev jeder



energija se pri fisiji sprosti



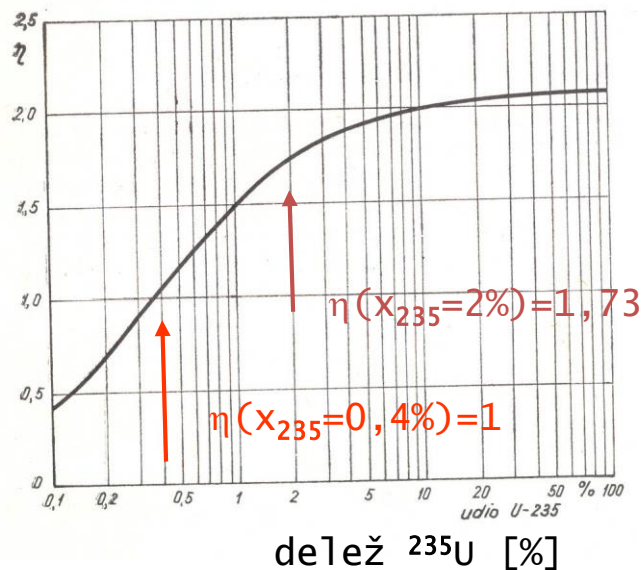
Sources: OECD / NEA 1989, Plutonium fuel - an assessment.
 Taube 1974, Plutonium - a general survey.
 1 barn = 10^{-28} m^2 , 1 MeV = $1.6 \times 10^{-13} \text{ J}$

vir: <http://www.uic.com.au/uicphys.htm>

Cepitev jeder

$$\eta(W) = \frac{x_{235}\sigma_f^{235}(W) + (1-x_{235})\sigma_f^{238}(W)}{x_{235}(\sigma_f^{235}(W) + \sigma_a^{235}(W)) + (1-x_{235})(\sigma_f^{238}(W) + \sigma_a^{238}(W))}$$

termični η ,
 $W \sim 0,03$ eV

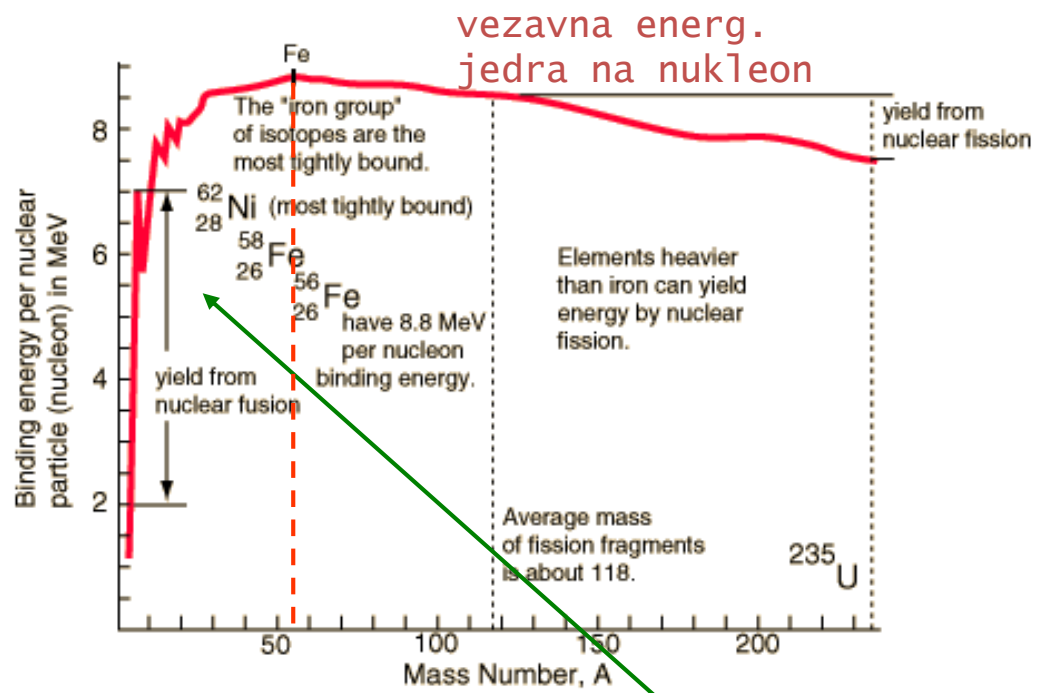
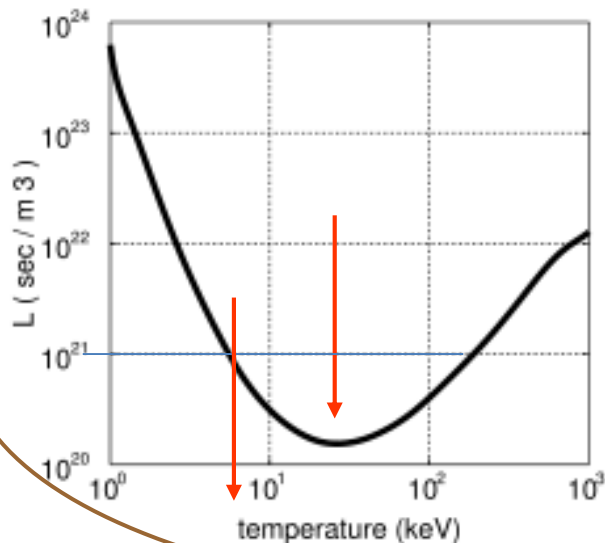


pri zmerno obogačenem U
(2% delež ^{235}U) $\eta = 1,73$

ko delež ^{235}U pade pod
0,4% verižna reak. ni več
možna

vir:
H. Požar, Osnove energetike

Zlivanje jeder



energija se pri fuziji sprosti

$$n\tau \geq \frac{12kT}{\langle v_{12}\sigma \rangle |\Delta W|}$$

vir: <http://en.wikipedia.org/>

Lawsonov produkt za $1^2\text{H} + 1^3\text{H} \rightarrow 2^4\text{He} + n$ $\Delta W = -17,6$ MeV

minimum pri T, ki ustreza 25 keV
 $\Rightarrow T \sim 2 \times 10^8$ K

$n\tau > 1,5 \times 10^{20} \text{ m}^{-3}\text{s}$

modificiran Lawsonov pogoj

$$n\tau \geq \frac{12kT}{\langle v_{12}\sigma \rangle |\Delta W|}, \quad \langle v_{12}\sigma \rangle \propto T^2$$

$$n\tau T \gtrsim konst.$$

„vžig“ plazme

