Is Charge Symmetry Broken in Nuclei ?

(graduation thesis at Tokyo University of Science)

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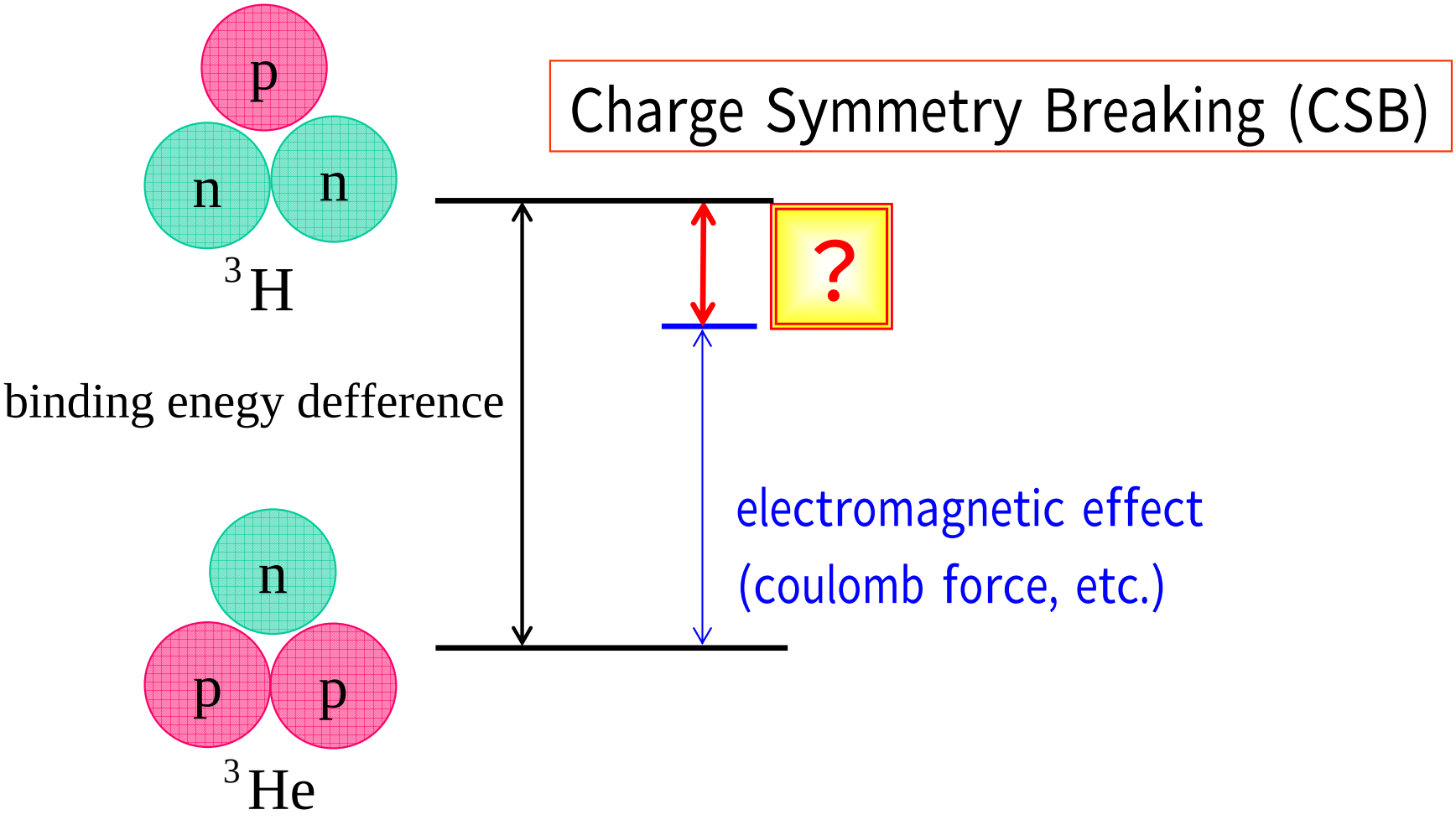
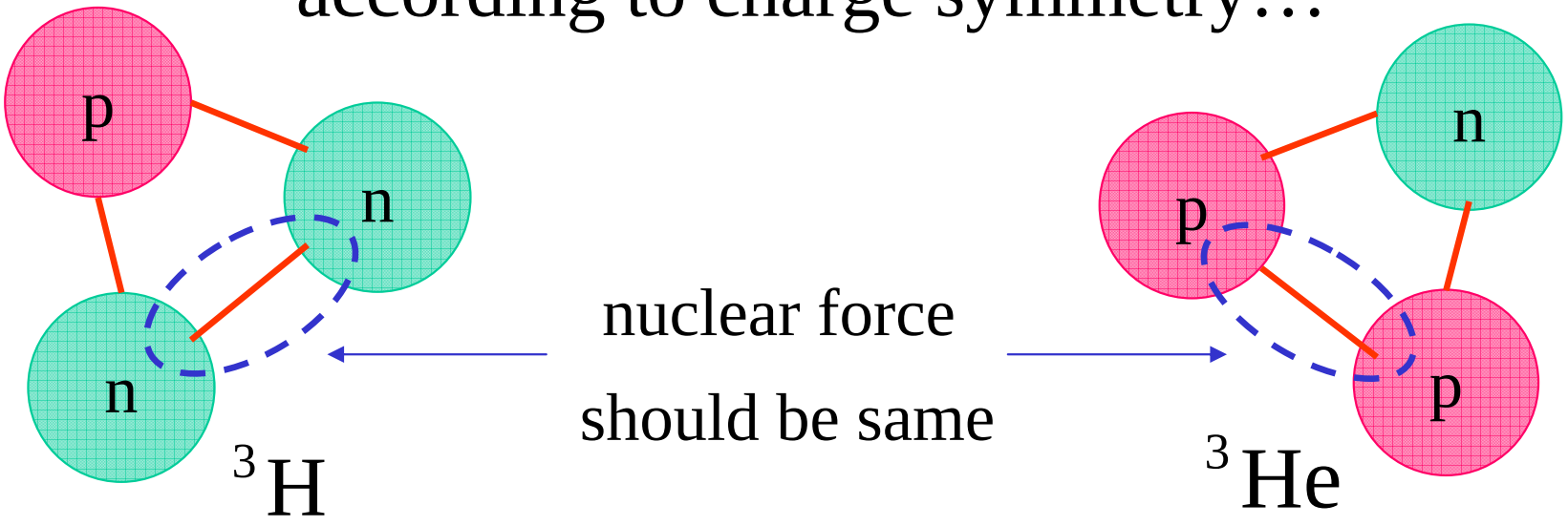
Charge Symmetry ・・・

Neutron and proton have same properties except charge.



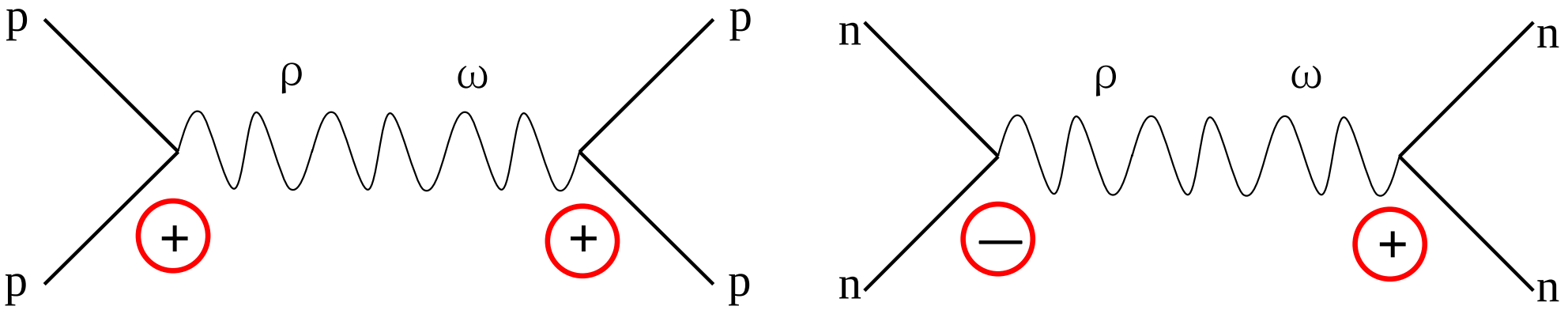
Degree of CSB increases with mass number of nuclei.

according to charge symmetry…



In reality, nuclear force is not the same.

Possible reason is **ρ − ω** mixing.



vector meson → (1^-)

	charge	mass	decay
ρ^0	0	770 MeV	2π
ω	0	782 MeV	3π

How much is $\rho - \omega$ mixing responsible for mass number dependence of charge symmetry breaking?

In the poster session, I will show theoretical evaluation of $\rho - \omega$ mixing.