

### Magnetic Momenta of free Nucleons and coupled Nucleons

			External Mass	
Free Proton:	$\mu_p =$	2.79285 $\mu_{Bohr}$	$m_p =$	1.6726E-27 kg
Free Neutron:	$\mu_n =$	1.91304 $\mu_{Bohr}$	$m_n =$	1.6750E-27 kg
			Relation n:p	1.00143489

### Unified Field Theory of Heinz-Joachim Ackermann (Arcus)

Proton			Neutron		Extended by Relation n:p
1s	2R	0.95652 $\mu_{Bohr}$	1s	2R	0.95789 $\mu_{Bohr}$
	2L	0.95652 $\mu_{Bohr}$		2L	0.95789 $\mu_{Bohr}$
	1R		$\overline{V_{e-R}}$	1R	Gravitomagnetic deviation
2s	1L	0.87981 $\mu_{Bohr}$	2s	1L	0.88107 $\mu_{Bohr}$
			$PK_e^-$	2R	-0.88382 $\mu_{Bohr}$
	Sum:	2.79285 $\mu_B$		Sum:	1.91304 $\mu_B$
Gravitomagnetic Spin:		-1/2 $\hbar$		Spin:	-1/2 $\hbar$

The electron protocosm  $PK_e^-$  meets the orbital 2s on 2R. So it had to rotate at the same orbital plane as the other charged PK.

But the antimatter of its antipart from the antineutrino-body repels this area.

It shifts the rotation area into an angle on 1s at 1R next to each other.

Really, the magnetic moment decreases relatively by tipping over that angle of the plane of 1s to 2s.

Theoretically, it has to equal -1  $\mu_{Bohr}$ . But it does not reach it because of the overturned plane.

This way, it determines all the magnetic momenta of all the nuclides of matter including neutrons. Proton remains unchangeable.

### For example the Deuteron

Proton, unchangeable stable.			Neutron		Shortened by new relation n:p	
	2R	0.95652 $\mu_{Bohr}$	1s	2R	-0.95560 $\mu_{Bohr}$	
1s	2L	0.95652 $\mu_{Bohr}$		2L	-0.95560 $\mu_{Bohr}$	
	1L	0.87981 $\mu_{Bohr}$	2s	1L	-0.87897 $\mu_{Bohr}$	Difference:
2s	Ejecting more internal mass:		$PK_e^-$	2R	0.85477 $\mu_{Bohr}$	-0.02905 $\mu_{Bohr}$
	Sum:	2.79285 $\mu_B$		Sum:	-1.93541 $\mu_B$	

Gravitomagn. Spin:  $-1/2 \hbar$  to Spin:  $+1/2 \hbar \rightarrow$  Zero!  
 Experimentally measured: **Common magnet moment:  $0.85744 \mu_B$  by magnetic circle**  
 (Info by Wikipedia 2023)

Excellerated PK of free neutron now have the chance for more opening of internal mass. External mass decreases by mass defect.

There an electromagnetic "spin" remains, although die gravitomagnetic "spin" of the particles is equalized. Don't forget, in my theory, it is a difference between g.m. and e.m. "spins". A particle doesn't rotate around itself. So it has no real spin. Inside subcosms rotate on orbitals causing g.m. and e.m. momenta (spins).

	External Mass	In MeV/c <sup>2</sup> :
	$m_p = 1.6726E-27$ kg	938.27 MeV/c <sup>2</sup>
	$m_n = 1.6750E-27$ kg	939.57 MeV/c <sup>2</sup>
	Relation n:p <b>1.00143489</b> free particles calculated.	
	$m_D = 3.3436E-27$ kg from Wikipedia	1875.61 MeV/c <sup>2</sup>
	m add. both $3.3476E-27$ kg	
	Difference $4.0162E-30$ kg mass defect calculated here.	
Mass defect equals 2.225 MeV/c <sup>2</sup> as binding energy.	Relation n:p <b>0.9990434</b> Nucleon-neutron got lighter.	
	$m_n$ in D = $1.6710E-27$ kg from mass defect.	937.345 MeV/c <sup>2</sup>

The orbit of electron-PK was more shifted by more internal mass  $\Delta m$  by result of external mass defect  $\Delta m$ .

So, the change of magnetic moment of a nuclid is dependend on the change of the internal mass by external mass defect. We have to find a cohesion between binding energy of neutron-nucleons and decreasing magnetic moments. Additionally, the orbital velocity decreases because the electron-PK ejects more internal mass while it stops flying on this section of its stroll pass.

$$\mu_{n-N} = \mu_{nfree} + \mu_{PKe} * - \Delta m / m_o * f$$

$$\mu_{n-N} = 1.91304 + 0.88342 * -2.225 / 939.57 * f$$

$$\mu_{n-N} = -1.93541001 \mu_{Bohr}$$

Deuteron-Neutron

$$- \Delta m \quad f$$

Mass defect Correction factor f

$$2.225 \quad 10.6926$$

MeV/c<sup>2</sup>

Helium-3-Neutron

Mass defect Correction factor f

$$7.72 \quad 10.6926$$

$$\mu_{n-N} = \mu_{nfree} + \mu_{PKe} * - \Delta m / m_o * f$$

$$\mu_{n-N} = 1.91304 + 0.88342 * -7.72 / 939.57 * f$$

$$\mu_{n-N} = -1.99065639 \mu_{\text{Bohr}}$$

MeV/c<sup>2</sup>

$$\mu_{n-N} = \mu_{\text{nfree}} + \mu_{\text{pKe}} * -\Delta m/m_o * f$$

$$\mu_{n-N} = 1.91304 + 0.88342 * -14.15/939.57 * f$$

$$\mu_{n-N} = -2.05530321 \mu_{\text{Bohr}}$$

Helium-4-Neutron

Mass defect    Correction factor f

14.15          10.6926

MeV/c<sup>2</sup>

For each special binding of a nucleon-neutron, you have to calculate its special binding energy (mass defect) against the proton magnetons according to my special constructions of atom nuclei.

The higher the e.m. moment of a nucleon-neutron, the smaller the e.m. moment of the nuclid.