NEUTRONS DON'T COMPRISE NEUTRINOS
NEUTRINOS ARE STOPGAPS FOR INHERENTLY FLAWED QUANTUM MECHANICS

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Introduction
Who has detected the neutrino? It was not detected, it was ordered as a remedy to save a theory in troubles. The remedy was a ghostly chargeless particle without mass, or with a very small mass. We quote from Haxton and Holstein's *Neutrino physics* [hax] with their attempt to present neutrino physics *at a level appropriate for integration into elementary courses on quantum mechanics and/or modern physics.*
In the introduction Haxton and Holstein depict the neutrino:
The neutrino, a ghostly particle which can easily pass through the entire earth without interacting, has long fascinated both the professional physicist and the layman…
Then they mentioned Pauli's proposal at the 7. Solvay Conference in 1933
that the neutrino was a particle carrying spin 1/2 in order to satisfy angular momentum conservation... But the neutrino was also invented to save the formula $E = mc^2$ because its application to the beta decay is not in agreement with the observed energy spectrum. The neutrino is therefore a remedy to save erroneous quantum physics.

The neutrino energy crisis:
Quantum mechanics ignorance to determine the energy balance of neutron decay
The neutrino – a stopgap to save $E = mc^2$

In the *Introduction to Particle Physics* http://lectureonline.cl.msu.edu
one can read:
Neutrino must be present to account for conservation of energy and momentum
(in the decay of neutrons):

n —> p + e + neutrino

In the decay of a neutron, energy and momentum were not conserved, the velocities of emitted electrons show large variations.

It has been found by experiment that the emitted beta particle has less energy than 0.272 MeV,
whereas 0,783 MeV represents the value according to $E = mc^2$
(The mass difference $m_n - (m_p + m_e) = 1.008665 - (1.0077825 + 0.0005485) = 0.000841$ u corresponds to 0.783 MeV when it is converted according to $E = mc^2$)
The observed energy release of the beta decay of neutrons is an <u>indubitable refutation</u> of $Q = E_{released} = \Delta mc^2$!
Instead to give up calculations of binding energies according to $Q = E_{released} = \Delta mc^2$, a stopgap particle was invented:

The neutrino accounts for the 'missing' energy.
According to Haxton and Holstein
Pauli suggested…
that an unobserved light neutral particle…(…the "neutrino"…) accompanied the outgoing electron and carried off the missing energy that was required to satisfy energy conservation. Pauli offered this explanation tentatively as a "desperate remedy" to solve the energy problem.

Both the observed large variations of the electron velocities and the discrepancy between observed and calculated energy indicate that the mass-energy conversion formula is wrong.
Moreover, the neutron cannot be a nuclide with a constant binding energy and a constant spin.

The neutron undoubtly represents a proton-electron combination that decays.
The binding energies of proton and electron of different neutrons are different. Why? Neutrons are fission products. Fission is the cause for different neutrons. According to Prout any atom is a ordered cluster of hydrogen atoms. Hydrogen is the building block. The H-atom consists of a proton and an electron that are magnetically coupled.

<u>During fission at the site of fracture some hydrogen atoms are excited and energized differently.</u>
This is the cause that they have decay at different time with different energies released.
So, the neutron is indentical with a excited hydrogen atom that decays: $n \equiv H^*$.
The decay process is written as
Fission process $\rightarrow$ H^* $\rightarrow$ $p + e$ + energy Q
The different excitation of hydrogen atoms due to fission can explain why the released energy is not constant and why it is larger than the ionization energy of hydrogen.
Moreover, because the mass of the excited H* (or „neutron“) is unknown, its rest energy is not known and a calculation of the decay process is impossible.

According to a Proutian theory of fission, the parent element, which is a complex structure of hydrogen atoms, decays into daughter elements and hydrogen atoms. Due to fission the daughter H‘s are more or less excited and are therefore more or less stable. Therefore the excited hydrogen atoms are denoted as H*, they are identical with neutrons: $H^* \equiv n$.
Different excitations or states of stability are the cause for different life times of neutrons. Different states of stability cause also different velocities of the decay products. The result is a continuous β-spectrum.

The neutrino spin crisis:

Why protons, electrons and neutrons have spin? Spins are not detectable.

Recall the disintegration of a neutron into a proton and an electron: $n \Rightarrow p + e^-$.
Quantum doctrine dogmatically anticipated
that all nucleons and electrons have spin $s_z = \hbar/2$ (abbreviated „1/2)“. Therefore spin conservation for neutron decay $n \Rightarrow p + e^-$ is violated.

This was the main reason to invent the neutrino with spin ½. (Here we must not distinguish between neutrino and anti neutrino…)
This invention is based on the assertion that spins of n, p and e possess the magnitude ½. If it can be shown that this is not the case for neutrons or protons, the justification for the neutrino breaks down. Below some nuclear reactions show that (in terms of QM!) spins of neutrons and protons cannot be ½.

Before going further, a remark to the concept of *spin* in QM:
The prevailing opinion is that QM spins are not the same as spins in classical mechanics. The QM spin is a “half-integer” property of atomic sub-particles. But for Finkelnburg [fin] the spin of an electron is a spin like in mechanics:

$s = (1/2)\ h/2\pi = 5{,}27\ 10^{-28}$ g cm^2 sec^{-1}

But of importance for our purpose is only the *conservation* of spins and angular momentum of atomic sub-particles in nuclear reactions:

Nuclear reactions show that neutrons cannot have spin ½
Therefore no necessity exists for a stopgap neutrino with spin ½

For some nuclear reactions the conservation of overall atomic angular momenta is violated. In order to overcome this imbalance one has to introduce stopgap neutrinos with spin ≠1/2. Some examples demonstrate that the introduction of a neutrino is not necessary.

Let us investigate some examples where neutrons are produced by nuclear reactions, where I is the resultant of nuclear spins and nuclear angular momenta.

1: N-14 ($I = 1$) + α ($I = 0$) $\rightarrow$ F-17 ($I = 5/2$) + n ($I = ½$)
For this nuclear reaction the imbalance of spins and angular momenta is obvious.

2: F-19 ($I = ½$) + α ($I = 0$)$\rightarrow$ Na -22 ($I = 3$) + n ($I = ½$)
Also for this reaction the spin and angular momenta imbalance is obvious.
Conclusion: the QM nuclear shell model with spin $\hbar/2$ for neutrons, protons is a failure.

Next let us consider:
C-12 ($I = 2$) + p ($I = ½$) => N-13 ($I = ½$) + γ ($I = 1$).
The overall imbalance is evident, protons and neutrons cannot have spin 1/2!

Conclusion:
Even in terms of QM, electrons and nucleons cannot have spin $\hbar/2$.
Therefore the motive for the invention of the neutrino namely to be a stopgap is invalidated. The neutrino is an impossible stopgap for the untenable electron and nuclear shell model. A repair of this system is impossible even with the introduction of new *ad hoc* hypotheses. The reason is that one must foresee for any nuclear reaction specific spins. Therefore laws would not determine the atom.
The fundamental question of atomic physics remains: Is there a causality for the permanent and constant spins of all elementary particles? What is the meaning of spin?

Spin $\hbar/2$ of atomic sub-particles is of theoretical *ad hoc* origin only
Spin is a non-observable

A:
Einstein-de Haas experiment renders possible to determine the magnetic moment of electrons but not their spin. This experiment shows for n electrons the measurable ratio $\Delta M/\Delta L$ where $\Delta M = n\,\Delta\mu$ is the sum of n electronic magnetic moments and ΔL is the sum of their spins: $\Delta L = n\,\Delta l$
Then: $\Delta M = -\,n\,\mu_B g\,\Delta l/\hbar = -\,\mu_B g\,\Delta L/\hbar \Rightarrow g = (\hbar/\mu_B)\,\Delta M/\Delta L$. g can be determined because n cancels out! But spin Δl cannot be determined because the unknown number n of electrons remains in the equation!

B:
Even with the Stern-Gerlach experiment one cannot measure spins, but magnetic moment. Which magnetic moment? The claim of QM is, that the measured magnetic moment (for example for silver atoms Ag) is due to electron spin of the outermost electron shell electron. This concerns a so-called $5s^1$-electron. According to the aufbau rules it does not orbit the nucleus, therefore it has no orbital angular momentum but only intrinsic spin.

B: Greene [gree]
A detailed analysis of the scattering of neutrons from ortho and para-hydrogen can be used to determine that the neutron has s=1/2(Schwinger1937)
Strange, from random scattering plus a lot of interpretation one can deduce a determined spin s = 0.500000000000000…!

D:
The magnetic moment does not imply spin ħ/2. Magnetic moments can be due to permanent magnets.
The QM calculations of magnetic moment will be criticized in other articles.

Summary:
It is not plausible that bound nucleons have any spin. They are conceivable as tiny permanent magnets too.
Unfortunately the nuclear shell model of Maria Goeppert-Mayer is a failure. Predictions disagree with measurements... The model is not repairable, for instance when the rules for spins of unclosed shells are altered… The troubles get multiplied because also the rules for the aufbau of electronic shells violate the conservation of total angular momenta law.

Nature is reasonable is a useful methodical device. Orbiting and spinning nuclides, which are glued together by hypothetical forces, are surely not reasonable.

Neutrino magnetic moment due to electron-neutrino scattering –
Which are the charged sub-particles of the neutrino?
Since it is known that chargeless neutrons possess a magnetic moment, it seemed to be possible that also the neutrino has magnetic moment. The reported magnetic moment of the neutrino is minute. Obviously, the spin of the neutrino is a non-observable. It is supposed to be ½.
If the neutrino has magnetic moment, then it must have an inner structure that comprises charged particles. The same is known for the neutron, which consist of electron, positron (and neutrino?).
See: A search for the neutrino magnetic moment – the MAMONT experiment http://nmm.cwru.edu/ and
http://www.int.washington.edu/talks/WorkShops/TAUP03/Parallel/People/Juget_F/MUNU-Juget

References

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