

# Why the quarks have asymptotic freedom

Time slows down appreciably on neutron stars because of their density but time slows down approximately a million times more in the middle of the three quarks in a proton or neutron. The density in the midst of those three quarks is tremendous.

There is a huge difference between the density in the middle of a proton or neutron and at the exterior of those same nuclei.

It is this difference in density -- also causing a time difference -- that causes the asymptotic freedom of the quarks.

Electrons repel other electrons unless held in orbital positions where they find their **spins in phase** with the **spins** of other electrons as in magnetism or chemical bonding.

Electrons are also attracted to nuclei because of a predominant quark spin frequency that is the **square** of the electron spin frequency. Electrons are **in phase** with this predominant harmonic quark spin frequency.

Quarks are attracted to other quarks via the quark spin frequency: <http://adsabs.harvard.edu/full/1988AuJPh..41...11C>

This harmonic quark spin frequency, attracting electrons and the other quarks as well, is a harmonic quark spin frequency produced by the three different density quarks spinning at three different spin frequencies.

But this **in phase** harmonic frequency is seen -- at its maximum -- only at the exterior of these nuclei; not in the middle of these nuclei where time would slow down these frequencies appreciably.

Thus this **in phase** situation caused by the tremendous quark density also causes the strong force to be greater closer to the

exterior of the nucleus than further inside each nucleus itself. Thus quarks appear to have far more asymptotic freedom further inside the nucleus itself than when they are close to the exterior of the nucleus.

The above can be proven mathematically by using this system developed in 2006:

<http://cdsweb.cern.ch/record/1008106/files/0612243.pdf>

Be sure to read: <http://www.amperefitz.com/acceleratingexpandinguniverse.htm>

See this short, clear picture: <http://www.amperefitz.com/principle-of-equivalence.htm>

Also <http://www.amperefitz.com/aphaseuniverse.htm>

And <http://www.rbduncan.com/schrod.htm>

There's a lot more too.

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