

Abstract Submitted  
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**Physics beyond the Standard Model** THEODORE LACH — Recent discoveries of the excited states of the  $B_s^{**}$  meson along with the discovery of the omega-b-minus have brought into popular acceptance the concept of the orbiting quarks predicted by the Checker Board Model (CBM) 14 years ago. Back then the concept of orbiting quarks was not fashionable. Recent estimates of velocities of these quarks inside the proton and neutron are in excess of 90% the speed of light also in agreement with the CBM model. Still a 2D structure of the nucleus has not been accepted nor has it been proven wrong. The CBM predicts masses of the up and dn quarks are 237.31 MeV and 42.392 MeV respectively and suggests that a lighter generation of quarks u and d make up a different generation of quarks that make up light mesons. The CBM also predicts that the T' and B' quarks do exist and are not as massive as might be expected. (this would make it a 5G world in conflict with the SM) The details of the CB model and prediction of quark masses can be found at: <http://checkerboard.dnsalias.net/> (1). T.M. Lach, Checkerboard Structure of the Nucleus, Infinite Energy, Vol. 5, issue 30, (2000). (2). T.M. Lach, Masses of the Sub-Nuclear Particles, nucl-th/0008026, @<http://xxx.lanl.gov/>

Theodore Lach

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