

Abstract Submitted
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Bounds upon Graviton mass, and making use of the difference between Graviton propagation speed and HFGW transit speed to observe post Newtonian corrections to Gravitational potential fields ANDREW BECKWITH — The author presents a post Newtonian approximation based upon an earlier argument / paper by Clifford Will as to Yukawa revisions of gravitational potentials in part initiated by gravitons with explicit mass dependence in their Compton wave length. The Li- Baker detector, with its ultra refined capacity to obtain relic HFGW signals is able to experimentally determine for HFGW empirical data sets which could determine upper bounds as to the existence of a graviton mass. Prior work with Clifford Will's idea was stymied by the application to binary stars and other such astro-physical objects with non useful frequencies topping off as up to 100 Hertz, thereby rendering Yukawa modifications of Gravity due to gravitons effectively an experimental curiosity which was not testable with any known physics equipment. The appearance of HFGW data sets as could be measured by the Li Baker detector gives a real chance as to experimentally obtain a measurable upper bound to the Compton wave length of Gravitons, which leads to other tests as to Gravitons existence as a measurable quantity, contradicting Tony Rothman's (2006) assertion that a detector the size of Jupiter would be needed to obtain measurements of a single graviton.

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