

# Evidence for a $\sim 17$ MeV Particle in Rare Beryllium-8 Decays?



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Wednesday

April 26

4:00 P.M.

Rm 118 NSH

The ATOMKI group has recently reported a surprising result in experimental measurements of a rare transition of Beryllium-8 nuclei, which shows what appears to be an unexpected resonant structure in the invariant mass of  $e^+e^-$  produced when the 18.15 MeV excited state decays to the ground state, which they interpret as a new particle of mass around 17 MeV and with ultra-weak couplings to the Standard Model. I will review the experimental results, and discuss possible interpretations as a previously unappreciated nuclear physics or a manifestation of physics beyond the Standard Model, and give outlook for future sources of information which can hope to shed light on the situation.

Refreshments  
in Rm 202 NSH  
@ 3:30 pm