Pendulum test of ALFA



Consider a Law of Physics: Energy conservation in 2 ref frames(RF) El = Eb RFl = Lab RFb = **pendulum ball/bob** The total energy in RFl agrees with exps: RFl: El = Mb*Vb²/2 +Mb*gh $\rightarrow \checkmark$ The total energy in RFb,Eb, is much greater than El: $\rightarrow X$ Eb = Ml*Vl²/2 +Ml*gh from kinematics, Vb = -Vl Ml = Mass of the earth So The energy conservation law of motion is valid in the lab frame;

invalid in the non-lab ball frame.

ALF: The lab frame is dynamically unique//absolute.