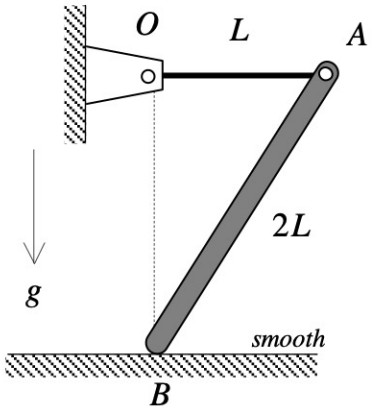
Homework H.5.E

Given: A thin homogeneous bar OA (of negligible mass and of length L) is pinned to ground at O. The other end of the bar is pinned to a second thin homogeneous bar AB (of mass m and length $2L$) at A. End B of bar AB is able to slide on a smooth, horizontal surface. At the instant of release from rest, OA is horizontal and end B of bar AB is located directly below O.

Find: Determine the angular acceleration of bar AB on release. Write your answer as a vector.



Use the following parameters in your analysis: $m = 50$ kg and $L = 3$ m.