ADJOINT STATE METHOD FOR CONTINUOUS TIME-DEPENDENT CASES

OD example: simple gravity pendulum:

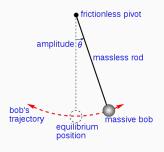
• rope of length *L*, acceleration of gravity *g*:

$$\ddot{\theta}(t) + \frac{g}{L}\sin\theta(t) = 0$$
, on $(0, T)$

• initial conditions:

$$\theta(0) = \Theta_0, \text{ and } \dot{\theta}(0) = 0$$

• experimental data: θ_{exp} , assumed measured $\forall t \in (0,T)$



Inverse problem: identification of the acceleration of gravity g