

5.1. A metal block of mass m sits on a table. Vibrations in the floor cause the table to move horizontally with a velocity $V(t)$. A thin film of lubricant allows the block to slide on the table with an effective viscous frictional coefficient B , as shown in Fig. 5.23.

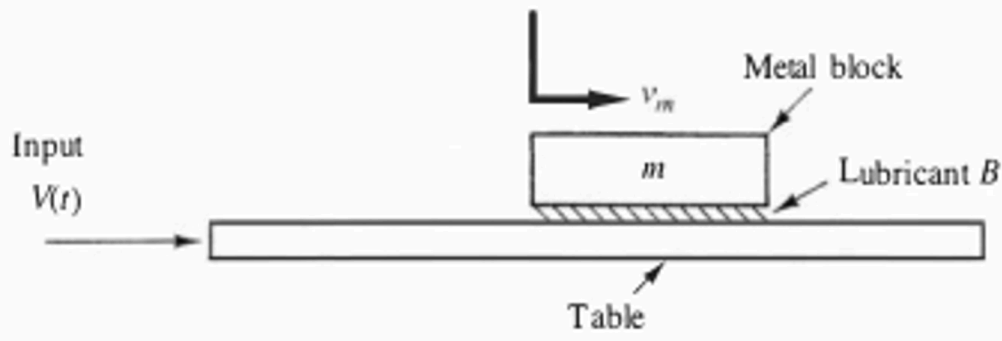


Figure 5.23: A mass element sliding on a table.

- Draw the system linear graph and normal tree.
- Derive a state equation for the system.
- Derive an output equation for the force accelerating the mass.

