



Figure 1: **An intuitive illustration of a moving football** with a visual persistence effect. Considering the generating process $\mathbf{x}_t = g(\mathbf{z}_{t:t-r})$, \mathbf{x}_t denotes the observed football with motion blur, and \mathbf{z}_t denotes the position and phase of the ball. Recovering the latent variables from a single observation will be difficult, which introduces non-invertibility.