The AoI process, represented by $\Delta(t)$, increases linearly until a new update arrives at the sink. For example, at time t_i, the Information Source generates the i-th status update, which is received by the sink at time t'_i. Upon receiving the update, the AoI instantly becomes $\Delta(t) = t'_i - t_i$ and starts to increase linearly until the next update arrives.