

In this technical note, we present a sufficient condition that guarantees identifiability for a class of linear network dynamic systems exhibiting continuous-time weighted consensus protocols. Each edge of the underlying network graph G of the system is defined by a constant parameter, referred to as the weight of the edge, while each node is defined by a scalar state whose dynamics evolve as the weighted linear combination of its difference with the states of its neighboring nodes. Following the classical definition of output distinguishability, we first derive a condition that ensures the identifiability of the edge-weights of G in terms of the associate transfer function. Using this characterization, we propose a sensor placement algorithm that guarantees identifiability of the edge-weights. We describe our results using illustrative examples.