Erratum: Observability implies observer design for switched linear systems

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1. In the formula for $\mathcal{P}_1^m$, the subscript of the matrix G must be changed from G_j to G_i. The equation should thus appear as follows:

$$\mathcal{P}_1^m := (\mathcal{N}_1^m)^\perp = \mathcal{R}(G_1^\top) + \sum_{i=2}^{m} \prod_{j=1}^{i-1} e^{A_j^\top \tau_j} E_j^\top \mathcal{R}(G_i^\top).$$

2. Equations (8) and (10) hold when all the matrices E_i are invertible, and are not true in general otherwise. Another sufficient condition for (8) and (10) to hold is:

$$\ker E_i \subseteq \ker G_i \cap \bigcap_{j=i-1}^{2} \prod_{k=i-1}^{j} e^{A_{k+1}\tau_{k+1}} E_k \ker G_j, \qquad \text{for all } i \geq 2, \tag{$*$}$$

   where the left-hand side is simply $\{0\}$ whenever E_i is invertible.

3. The invertibility of the jump maps E_i, or the condition $(*)$, must be included in Assumption 1 for the observer design to be valid.