

Table 1: The mechanisms of four consensus filtering approaches

Types	Structures of Consensus Filters *	References
CE	$\hat{x}_k^i = \hat{x}_{k k-1}^i + K_k^i(z_k^i - H_k^i \hat{x}_{k k-1}^i) + u_k^i$ $u_k^i = C_k^i \sum_{j \in N_i} (\hat{x}_{k k-1}^j - \hat{x}_{k k-1}^i)$	[58],[59]
CM	$\Omega_{k k}^i = \Omega_{k k-1}^i + \mathcal{N} \sum_{j \in \mathcal{N}} \pi_{L,k}^{i,j} (H_k^j)^T (R_k^j)^{-1} H_k^j$ $q_{k k}^i = q_{k k-1}^i + \mathcal{N} \sum_{j \in \mathcal{N}} \pi_{L,k}^{i,j} (H_k^j)^T (R_k^j)^{-1} z_k^j$	[16],[58]
CI	$\Omega_{k k}^i = \sum_{j \in \mathcal{N}} \pi_{L,k}^{i,j} \left[\Omega_{k k-1}^j + (H_k^j)^T (R_k^j)^{-1} H_k^j \right]$ $q_{k k}^i = \sum_{j \in \mathcal{N}} \pi_{L,k}^{i,j} \left[q_{k k-1}^j + (H_k^j)^T (R_k^j)^{-1} z_k^j \right]$	[19],[75]
H_∞ consensus	$\begin{cases} \hat{x}_k^i = A_k \hat{x}_{k-1}^i + K_k^i(z_k^i - H_k^i \hat{x}_{k-1}^i) + u_k^i \\ u_k^i = C_k^i \sum_{j \in N_i} (\hat{x}_{k-1}^j - \hat{x}_{k-1}^i) \end{cases}$ $\frac{1}{n} \sum_{i \in \mathcal{N}} \ \tilde{z}^i\ ^2 \leq \gamma^2 \{ \ v\ _2^2 + \frac{1}{n} \sum_{i \in \mathcal{N}} (e_0^i)^T S^i e_0^i \}$	[78],[80]

* Throughout the table, A_k is the systems matrix, H_k^i , R_k^i and z_k^i are respectively measurement matrix, covariance matrix of measurement noise and measurement output value of node i . Further, denote $\Omega_{k|k} \triangleq (P_{k|k})^{-1}$ and $q_{k|k} = (P_{k|k})^{-1} \hat{x}_{k|k}$ as information matrix and information vector.