Supplemental Material

Is repulsion good for the health of Chimeras?
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Figure 1: (Color online) (a) Snapshots of synchronized state in the positive layer of a multiplex network consisting of two positively coupled layers, (b) time series of the nodes. The time series depicts periodic time evolution of nodes for synchronized state. Parameters: coupling strength, $\lambda = 1.86$; network size, $N = N^1 = N^2 = 100$; node degree, $\langle k^1 \rangle = \langle k^2 \rangle = 64$; natural frequency, $\omega = 0.5$; and lag parameter $\alpha = 1.45$.

Figure 2: (Color online) (a) Snapshots of chimera state in the positive layer of a multiplex network consisting of one positively coupled layer and one negatively coupled layer. b,c,d and e respectively, depict the time series of nodes I,II,III and IV, marked in (a). The time series illustrate non-periodic time evaluation for nodes for chimera state. Parameters: Coupling strength $\lambda = 1.86$, Network size $N = N^1 = N^2 = 100$, node degree $\langle k^1 \rangle = \langle k^2 \rangle = 64$, natural frequency $\omega = 0.5$ and lag parameter $\alpha = 1.45$. 