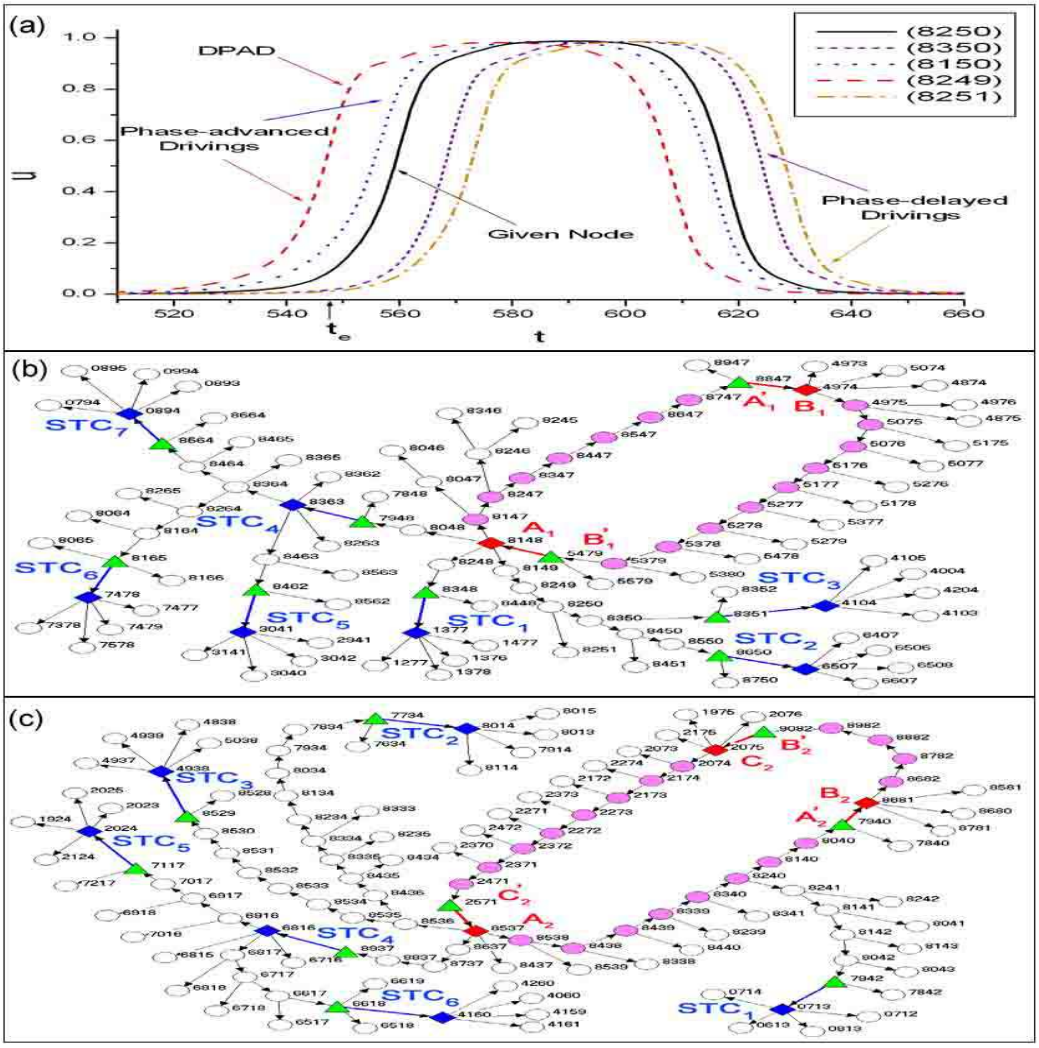

FIG. 3: Coloured online. (a) Demonstration of the phase-advanced drivings and dominant phase-advanced driving of a given node 8250 for the state Fig. 2(c). Black solid curve shows the $u(t)$ signal of the given node 8250. Other four coloured curves are the $u(t)$ signals of nodes interacting with node 8250. Jumping time t_e is marked by the arrowed line. It is obvious that signals 8249 (red dash line) and 8150 (blue dot line) represent phase-advanced drivings, and their couplings help to excite the given node at t_e. And the node 8249 (red dash line) signal provides the most significant contribution in exciting the given node, and is identified as dominant phase-advanced driving. Signals 8350 (purple short dash line) and 8251 (yellow dash dot line) are phase-delayed interactions, and they provide no (or, precisely, play negative) contributions to kick the given node. (b) (c) TFL structures (partial nodes and DPADs are presented) corresponding to patterns Figs. 2(c) and 2(d), respectively. All subscripts indicate the node positions, e.g., 8250 representing the node index (i, j) with $i = 50$, $j = 82$. All red (arrowed to the red square source target centers) and blue (arrowed to the blue square sub-target centers) bold lines denote long-range interactions. From these TFL patterns we can identify the following information: (i) DPAD loops (linked by pink nodes) as the oscillation sources; (ii) Oscillation centers (red square nodes in source loops), i.e., (A_1, B_1) for (b) and (A_2, B_2, C_2) for (c) from which all waves are generated; (iii) Successive driving sequences representing wave propagation pathways.