

$p = 0.9$

$p = 0.5$

 $p = 0.2$ $\phi = 0.9$
$$\phi = 0.5$$
 $\phi = 0.2$

Abundance

The figure consists of three vertically stacked line graphs, labeled (a), (b), and (c). Each graph plots the number of nodes (Y-axis, 0 to 3000) against time (X-axis, 0 to 10). Two data series are shown in each graph: a light blue line with square markers and a dark blue line with triangle markers.

- (a) without a leader:** The light blue series starts at approximately 250 nodes and increases to about 800 nodes. The dark blue series starts at approximately 100 nodes and increases to about 450 nodes.
- (b) with a leader:** The light blue series starts at approximately 250 nodes and increases to about 450 nodes. The dark blue series starts at approximately 100 nodes and increases to about 350 nodes.
- (c) with a leader and a group of nodes:** The light blue series starts at approximately 250 nodes and increases to about 450 nodes. The dark blue series starts at approximately 100 nodes and increases to about 750 nodes.

The figure consists of three vertically stacked plots sharing a common x-axis representing time steps from 0 to 10. Each plot has a y-axis ranging from 0 to 10.

- Top Plot:** Shows the number of nodes in the category of the root. The green squares represent one series, starting at approximately 10 and increasing to about 25 by step 5. The blue triangles represent another series, starting at approximately 8 and increasing to about 20 by step 5.
- Middle Plot:** Shows the number of nodes in the category of the root's children. The green squares start at approximately 10 and increase slightly to about 18 by step 5. The blue triangles start at approximately 8 and increase to about 17 by step 5.
- Bottom Plot:** Shows the number of nodes in the category of the root's grandchildren. Both the green squares and blue triangles remain very low, near zero, throughout all time steps.

Sampling Occasions

Expected

—●— Without Recycled —▲— With Recycled