Summary of measured graph parameters

Let $G = (V, E)$ be a graph with distinguished initial vertex v_0.

in-(out-)degree	number of edges leading from (to) vertex
average degree	$\|E\|/\|V\|$
strongly connected component	a maximal set of states $C \subseteq V$ such that for each $u, v \in C$, the state v is reachable from u and vice versa
trivial component	cointains only one state
quotient graph	a graph (W, H), such that W is the set of the SCCs of G and $(C_1, C_2) \in H$ if and only if $C_1 \neq C_2$ and there exist $r \in C_1, s \in C_2$ such that $(r, s) \in E$
initial (terminal) component	it have no predecessor (successor) in quotient graph
SCC quotient height	the length of the longest path in the quotient graph of G
$\delta(u, v)$	the length of the shortest path from u to v (and ∞ if such a path do not exists)
diameter	the largest finite $\delta(u, v)$
girth	the length of the shortest cycle
k-th level of the BFS	set of states v such that $\delta(v_0, v) = k$
BFS height	$\max\{\delta(v_0, v) \mid v \in V\}$
(u, v) back level edge	v belongs to lower or equal level as u
length of back level edge	the difference between the two levels
BFS level graph	graph of the number of states on a level against the index of level
stack graph	graph of size of stack against the number of steps
(u, v) is front edge	if v was not visited before it is visited by this edge
(u, v) is back edge	if v was visited before it is visited by this edge and is in the stack
(u, v) is cross edge	if v was visited before it is visited by this edge and is not in the stack
k-cycle	the sequence $v_1, \ldots, v_k$ of mutually different verticies is a k-cycle if $\forall 1 \leq i < k : (v_i, v_{i+1}) \in E$ and $(v_k, v_1) \in E$
diamond	quadruple $(v_1, v_2, v_3, v4)$ is diamond rooted at v_1 if $(v_1, v_2) \in E, (v_1, v_3) \in E, (v_2, v_4) \in E, (v_3, v_4) \in E$
k–neigborhood of v	a set of verticies reachable from v within k steps

Explanation of visualizations:

- Pictures in which all verticies are white: At first k random steps (=initial walk) are performed and then BFS is started from the final state of the random walk. The BFS is restricted to some 60 states. Edges among these vertices are drawn.
- Pictures with some gray vertices: Simillar as above, but BFS is restricted to smaller number of vertices (these are gray vertices) and afterwards all predecessor and successors of these verticies are found (these are white vertices). I.e. it is guaranteed that for gray vertices we see the whole vicinity.