Side-by-Side Decay models

globals [rate]

to setup
  clear-all
crt 500
  ask turtles [ set color red
    set shape "circle"
    setxy (random world-width)(random world-height)
  ]
  set rate Decay_rate / 500
  reset-ticks
end

to go
  ask turtles [ if color = red [check_if_decay] ; if the turtle
    is "red" see if it should decay
  ]
tick
end

to check_if_decay
  ask turtles with [color = red ]
    [if (random-float 100.0 < rate)
      [set color blue]
    ]
end

globals [ decays
  last-count
]

to setup
  clear-all
  set-default-shape turtles "circle"
  ask n-of number-nuclei patches [ sprout 1 [ set color cyan ] ]
  set last-count number-nuclei
  set decays 0
  reset-ticks
end

to go
  model
    if all? turtles [color = blue - 3]
      [ stop ]
    set decays 0
    ask turtles with [color = cyan]
      [ if random-float 100.0 < decay-chance
        [ set color yellow
          set decays decays + 1 ] ]
display
  ask turtles with [color = yellow]
    [ set color blue - 3 ]
tick
end

to draw-vertical-line [x-val]
  set-plot-pen-color red
  plot-pen-up
  plotxy x-val 0
  plot-pen-down
  plotxy x-val number-nuclei
end

to draw-horizontal-line [y-val]
  set-plot-pen-color green
  plot-pen-up
  plotxy 0 y-val
  plot-pen-down
  plotxy ticks y-val
end

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