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function[integrin] = disPosition(integrin,R)
% user defined function to move the integrin by random displacement

% for loop to calculate the displacement of each integrin by a random
% amount and applying
for i = 1:numel(integrin)
    if (integrin(i).ligand_state == 0)
        % calculates a random x and y displacement
        displacement_x = R * randn() * 0.1;
        displacement_y = R * randn() * 0.1;
        % adding the displacements to the initial x and y coords
        integrin(i).x = integrin(i).x + displacement_x;
        integrin(i).y = integrin(i).y + displacement_y;
        % if the displacement moves the integrin out of our domain, this
        % will make the integrin go pi radians around the center and enter
        % it back in
        if (sqrt(integrin(i).x^2 + integrin(i).y^2) > R)
            integrin(i).x = mod(integrin(i).x + displacement_x, R*2) - R;
            integrin(i).y = mod(integrin(i).y + displacement_y, R*2) - R;
        end
    end
end
end

```