```
function [x,theta,t,DR,DT,mx,my,mz] = GMRCC(N,dt,x0,R,T,eta,E)
kB = 1.38e-23; % Boltzmann constant [J/K]
gamma = 6*R*pi*eta; % friction coefficient [Ns/m]
DT = kB*T/gamma; % translational diffusion coefficient [m^2/s]
DR = 6*DT/(8*R^2); % rotational diffusion coefficient [rad^2/s]
x(1,:) = x0; % initial conditions (position)
theta = 0; % initial conditions (angle)
for n = 1:1:N
% Translational diffusion step
x(n+1,:) = x(n,:) + sqrt(2*DT*dt)*randn(1,3);
% Rotational diffusion step ; 2*DR*dt
theta = theta + sqrt(2*DR*dt)*randn(1,1);
% Torque step
%theta = theta + W*dt;
theta = theta + E*DR*sin(theta)*dt;
mx=0;
my=0;
mz=theta;
cla
hold on
plot3(x(1:n+1,1)*1e6,x(1:n+1,2)*1e6,x(1:n+1,3)*1e6,'b')
q=quiver3(x(n+1,1)*1e6,x(n+1,2)*1e6,x(n+1,3)*1e6,mx,my,mz,0.1);
%c=q.Color;
ax=gca;
ax.FontSize=40;
q.Color='red';
plot3(x(n+1,1)*1e6,x(n+1,2)*1e6,x(n+1,3)*1e6,'o', ...
'MarkerSize',15,...
'MarkerEdgeColor','k', ...
'MarkerFaceColor','g')
hold off
axis equal square
ax=gca;
ax.XAxis.FontSize=30;
ylabel('y [\mum]','FontSize',40)
ax=gca;
ax.YAxis.FontSize=30;
zlabel('z [\mum]','FontSize',40)
ax=gca;
ax.ZAxis.FontSize=30;
box on
axis equal
drawnow();
grid on
end
t = [0:dt:(N-1)*dt];
%figure
%plot(t,theta)
```