```
% Time vector
times = linspace(0, 2.9, 29);

% Experimental data
x_values = [ ...
    173.5; 175.875; 182.75; 189.5; 196.3125; 203.125; 209.375; 216.1875; 223.125; ...
    230.0; 236.875; 243.6875; 249.875; 256.75; 263.625; 270.3125; 277.125; 284.25; ...
    290.5; 297.125; 303.8125; 310.625; 317.6875; 324.75; 331.6875; 337.9375; 344.5625; ...
    351.3125; 358.6875 ...
];
x_values_actual=x_values-175
```

```
x_values_actual =

   -1.5000
    0.8750
    7.7500
   14.5000
   21.3125
   28.1250
   34.3750
   41.1875
   48.1250
   55.0000
   61.8750
   68.6875
   74.8750
   81.7500
   88.6250
   95.3125
  102.1250
  109.2500
  115.5000
  122.1250
  128.8125
  135.6250
  142.6875
  149.7500
  156.6875
  162.9375
  169.5625
  176.3125
  183.6875
```

Define the transfer function

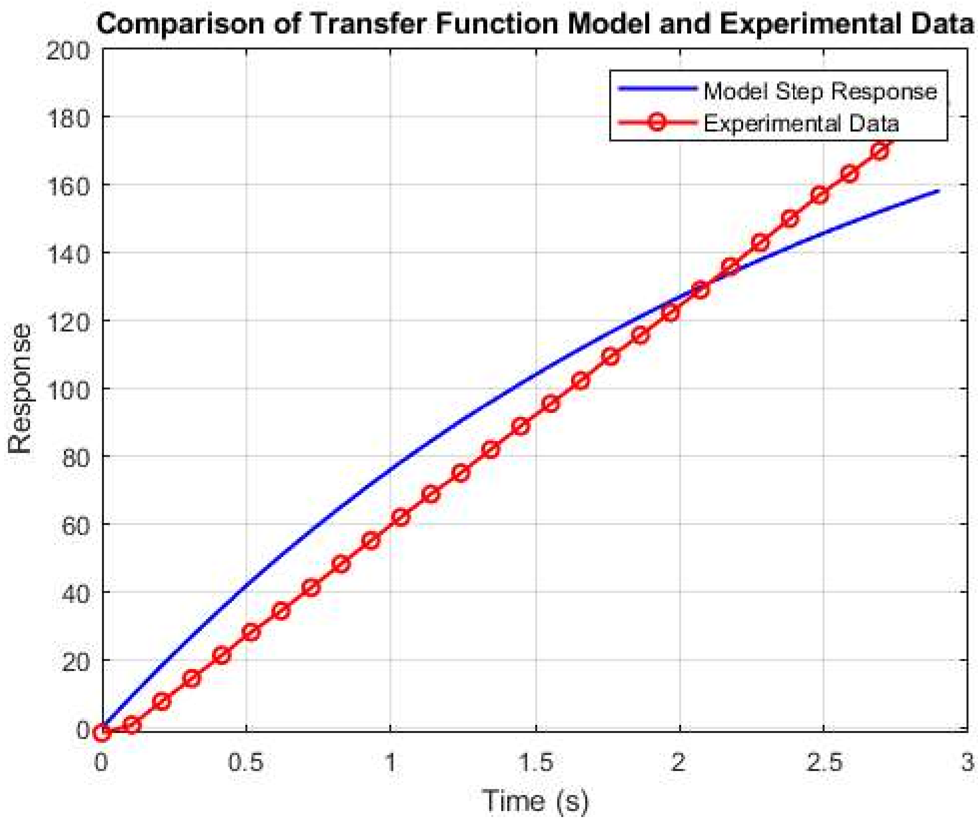
```
s = zpk('s');
Gsys_yaw_position = 92.07 / (s + 0.4);

% Simulate the step response of the transfer function
[y_sim, t_sim] = step(Gsys_yaw_position, times);
```

```
% Plot the transfer function step response
figure(2);
plot(t_sim, y_sim, 'b-', 'LineWidth', 1.5);
hold on;

% Plot the experimental data
plot(times, x_values_actual, 'ro-', 'LineWidth', 1.5);

% Add labels and legend
title('Comparison of Transfer Function Model and Experimental Data');
xlabel('Time (s)');
ylabel('Response');
legend('Model Step Response', 'Experimental Data');
grid on;
hold off;
```



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