
```

clear; clc; close all;

w0 = 2001;
L = 27.25;

discretized = discretize_load(6, L, w0)

[Ay, Ma] = wall_reactions(discretized)

errorSingle = moment_error(discretized, L, w0)

maxSections = 30
for p = 1:maxSections
    matrix = discretize_load(p, L, w0);
    error(p) = moment_error(matrix, L, w0);
end

figure
hold on;
title("Error between discretized load and analytical beam moments")
plot(1:p, zeros(length(1:p)), 'k--');
plot(error, 'b-');
xlabel("Number of sections")
ylabel("Error (lb-ft)")

discretized =

    1.0e+03 *

    8.3306    0.0022
    6.8159    0.0067
    5.3013    0.0112
    3.7866    0.0157
    2.2720    0.0202
    0.7573    0.0242

Ay =

    2.7264e+04

Ma =

    2.4764e+05

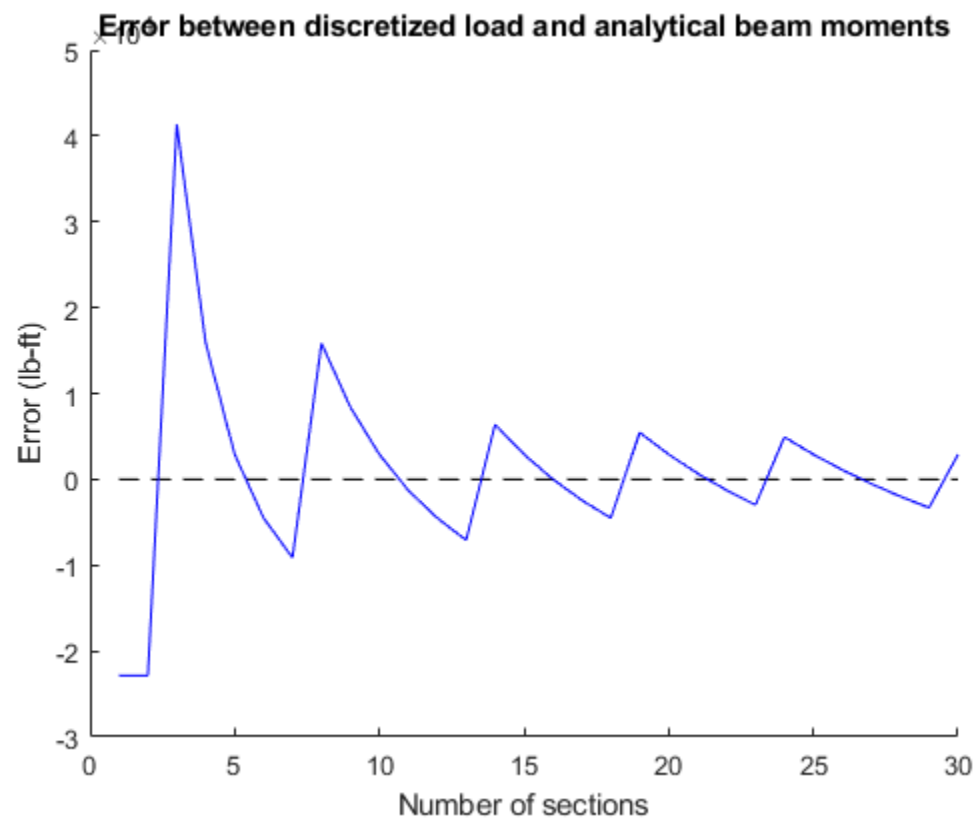
errorSingle =

   -4.5099e+03

```

`maxSections =`

30



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