Beam Analysis Report

PyLaTeX Report Generator

January 30, 2026

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1 Introduction

This report presents a comprehensive analysis of beam loading and structural behavior.

Simply Supported Beam

Figure 1: Simply supported beam under loading

2 Load Data

Beam structural analysis data read from Excel file:

Position (x)	Shear Force	Bending Moment
0.0	45.0	0.0
1.5	36.0	60.75
3.0	27.0	108.0
4.5	18.0	141.75
6.0	9.0	162.0
7.5	0.0	168.75
9.0	-9.0	162.0
10.5	-18.0	141.75
12.0	27.0	108.0
13.5	-36.0	60.75
15.0	-45.0	0.0

3 Analysis

Shear Force Diagram (SFD) and Bending Moment Diagram (BMD) analysis:

Shear Force Diagram (SFD)

Bending Moment Diagram (BMD)