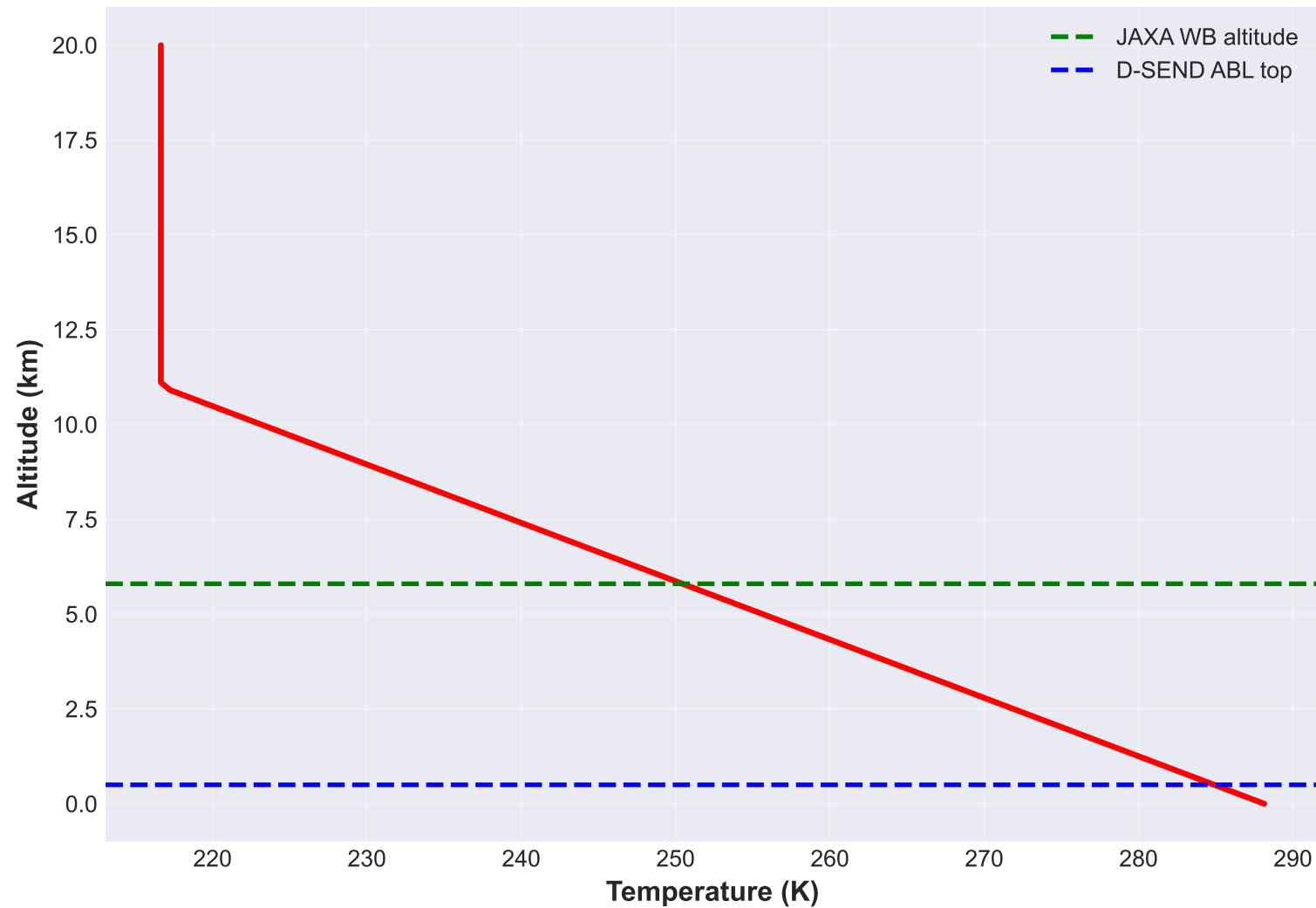
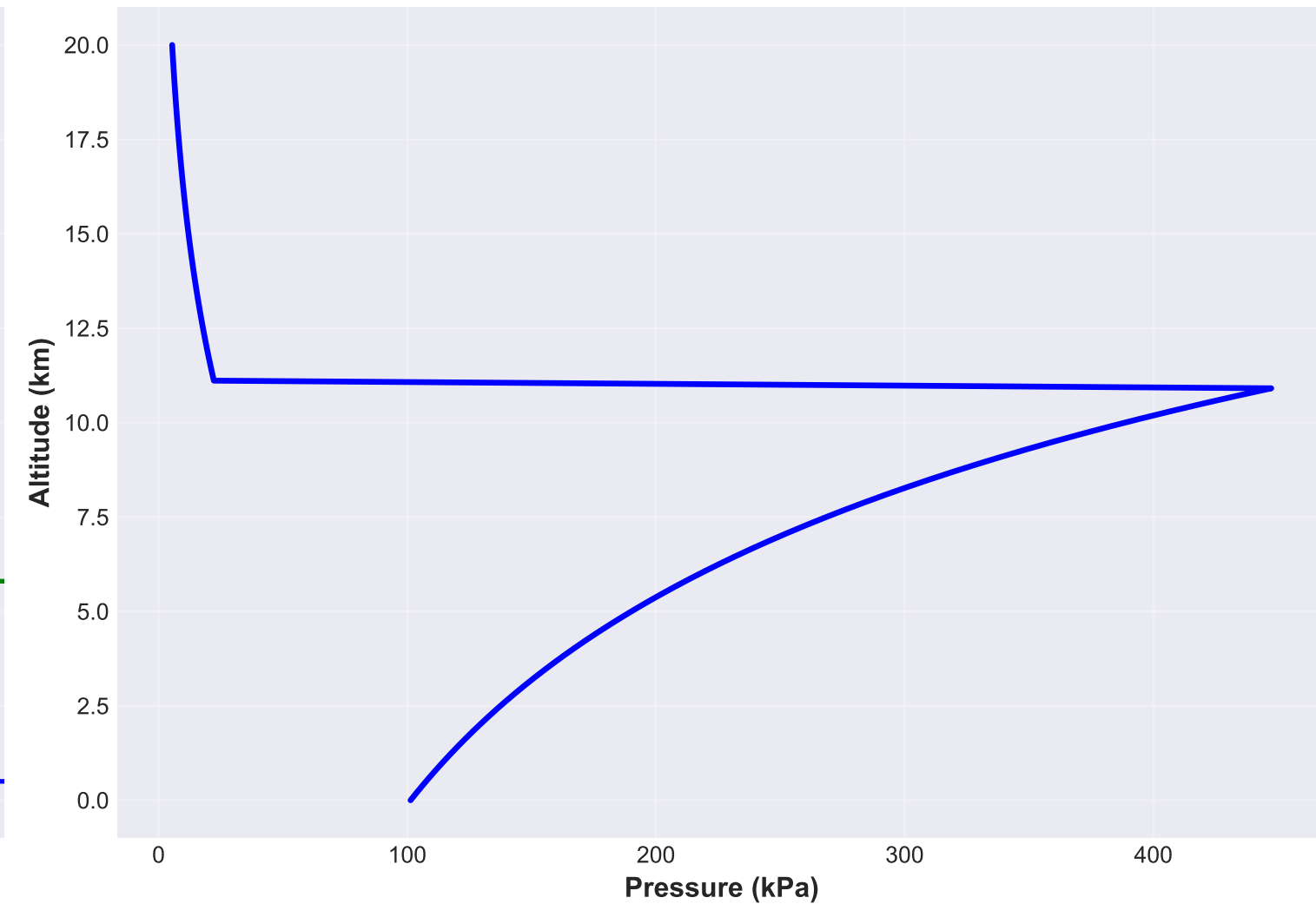


Atmospheric Properties Profile (ISA Standard Atmosphere)

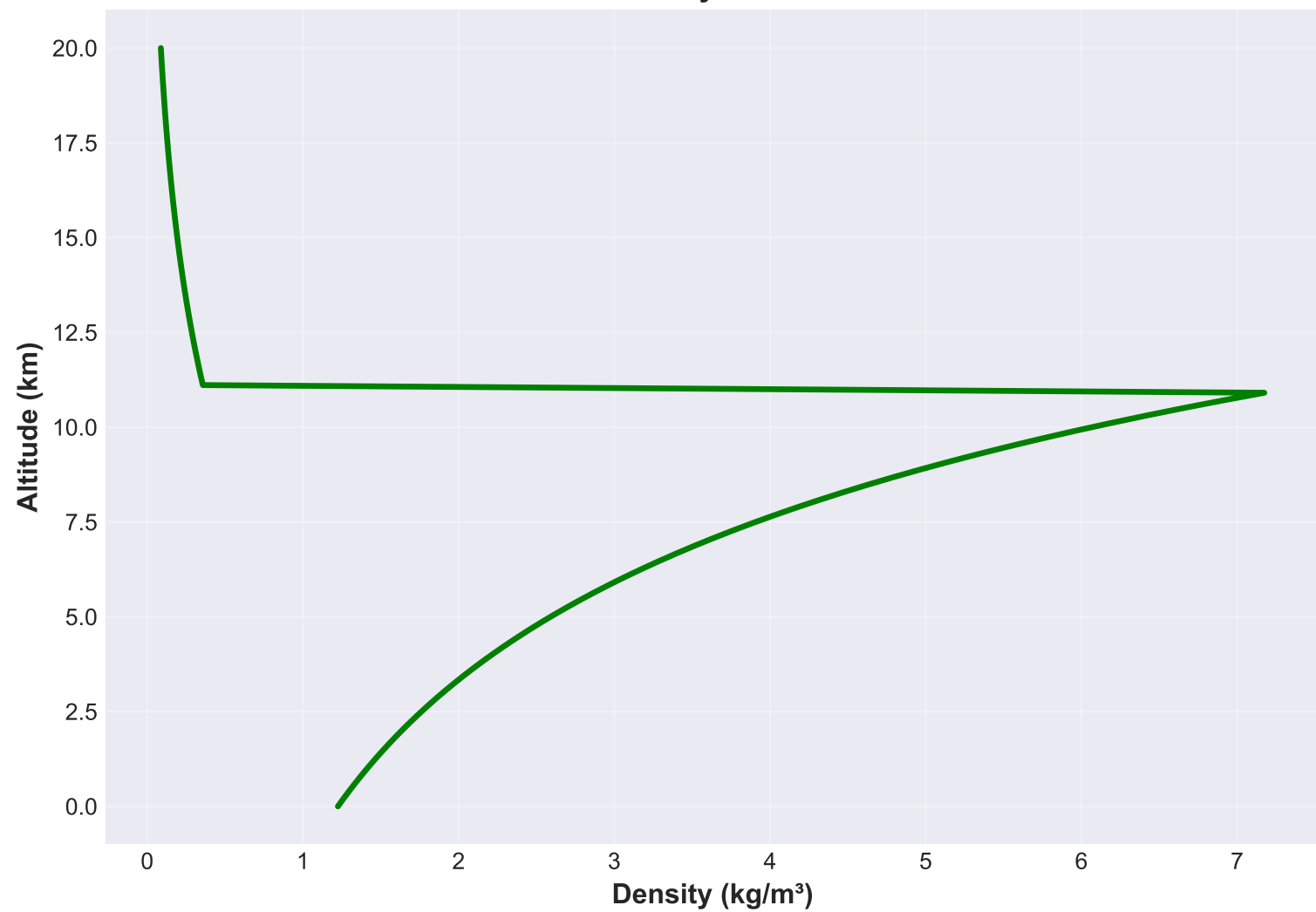
Temperature Profile



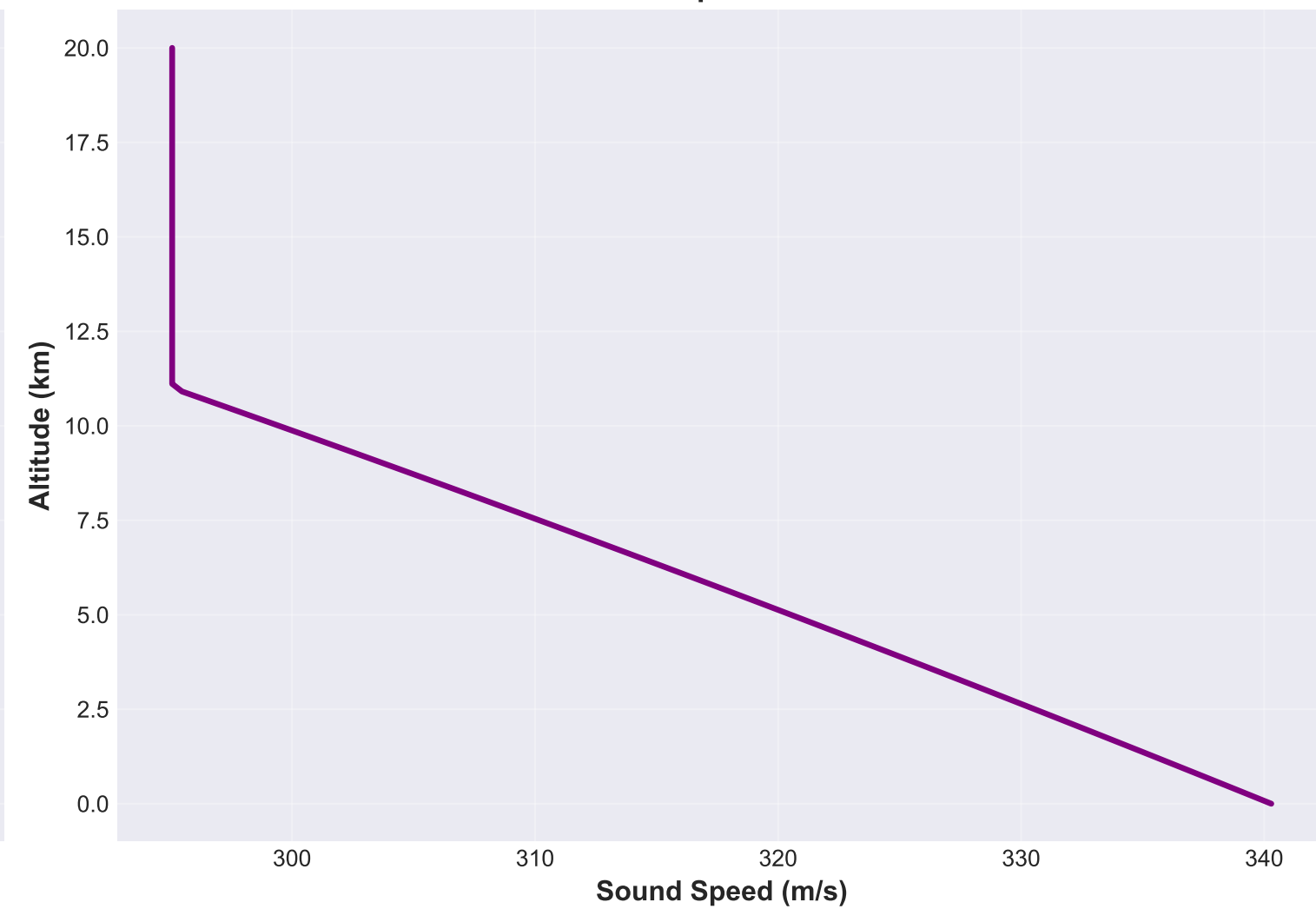
Pressure Profile



Density Profile



Sound Speed Profile



TEST CASE 1: JAXA Wing Body - Complete Analysis

Figure 4.4: Near-field Pressure Signature (JAXA Wing Body, M=1.42, r/L=1)

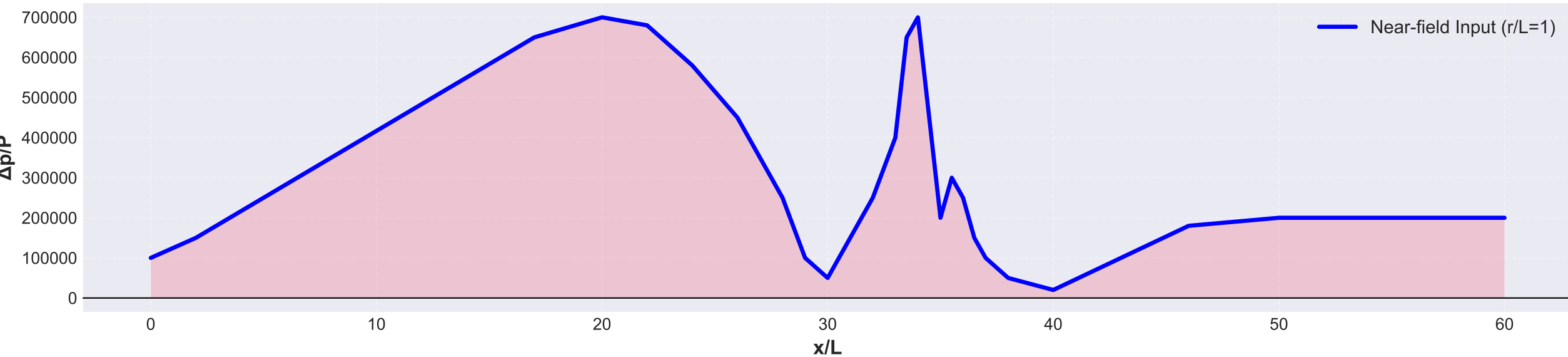
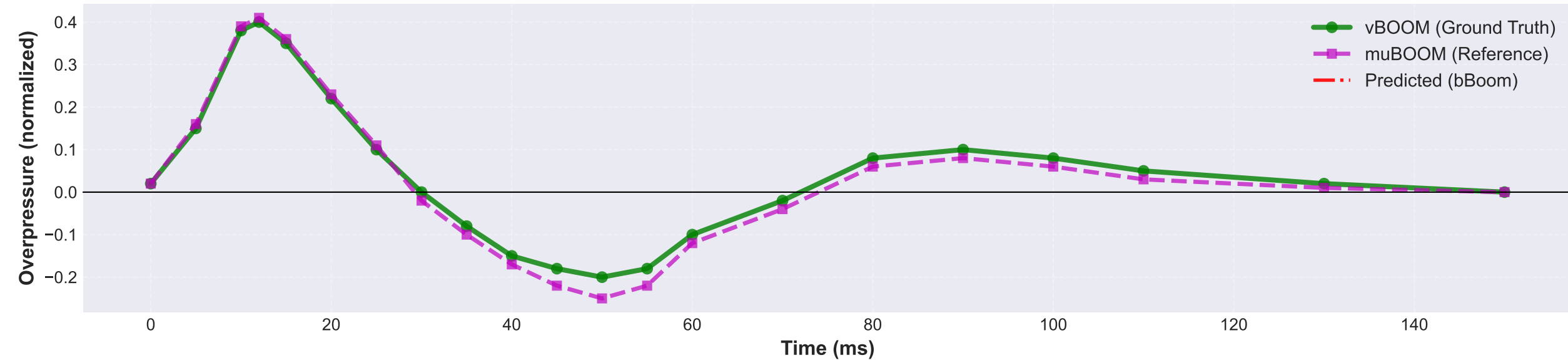
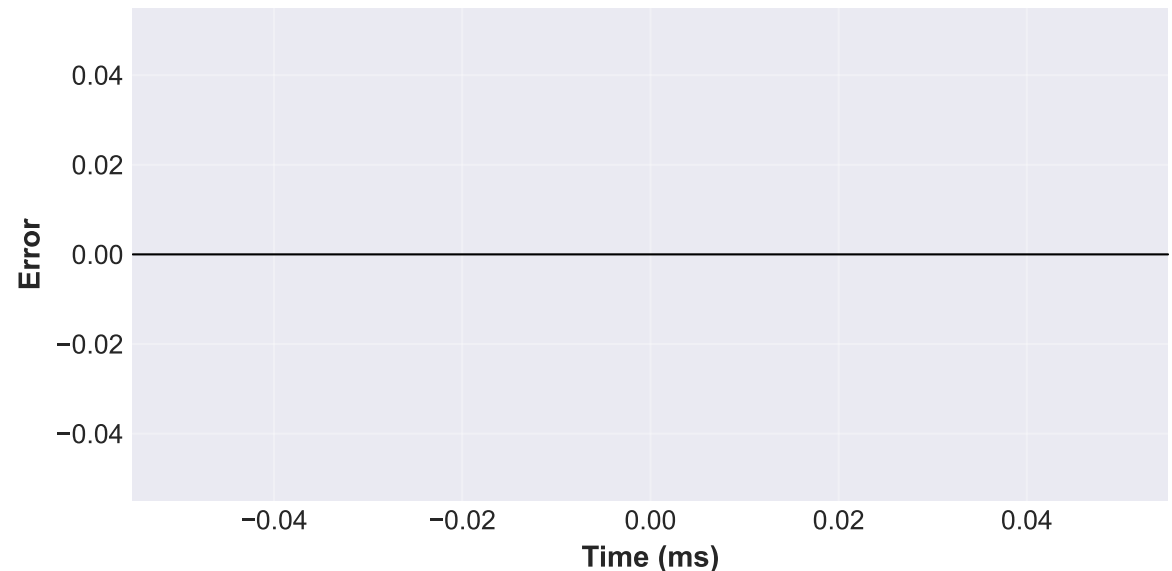


Figure 4.5: Ground Signature Comparison (0° Azimuth)



Prediction Error (Predicted - vBOOM)

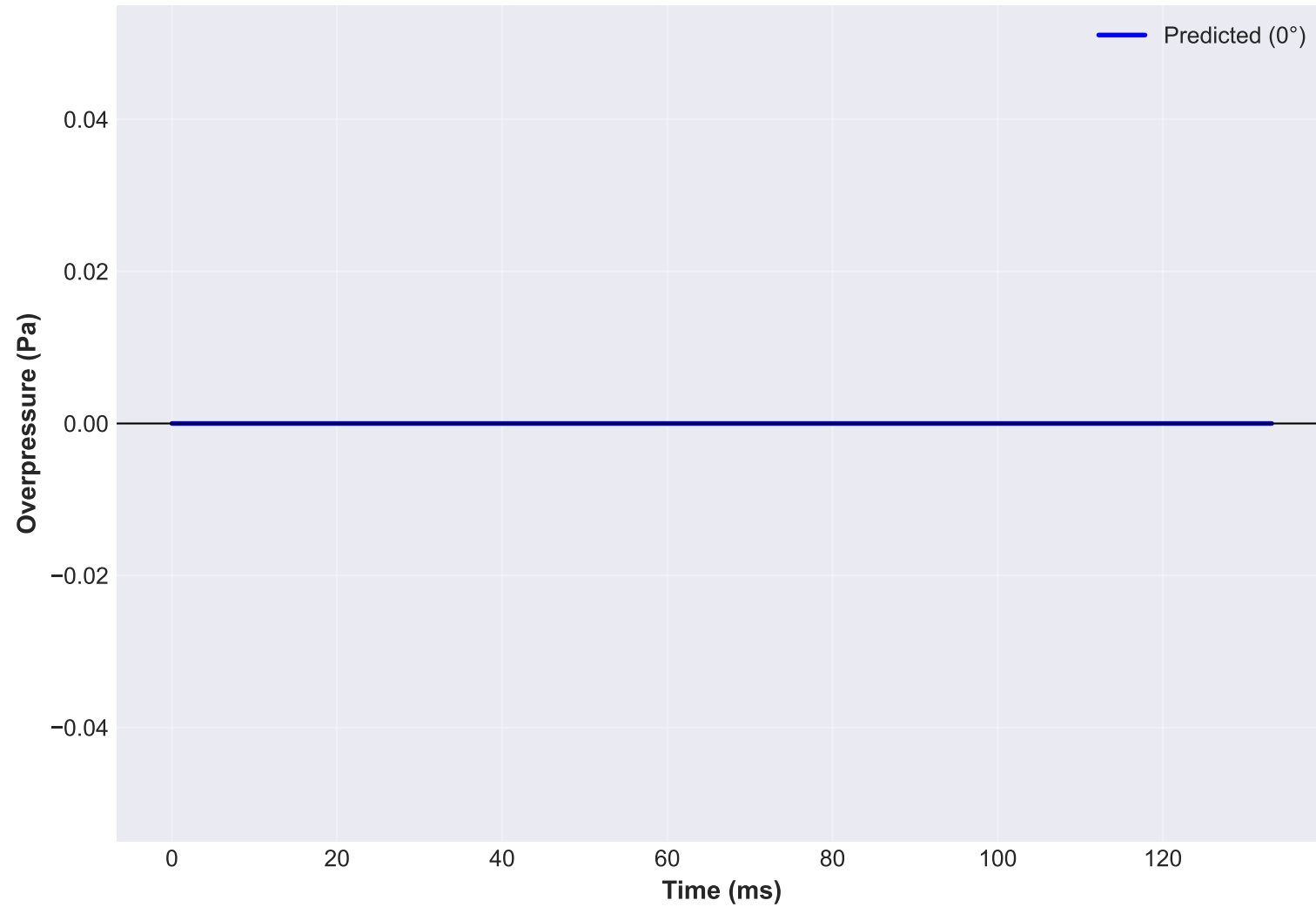


Validation Metrics Summary

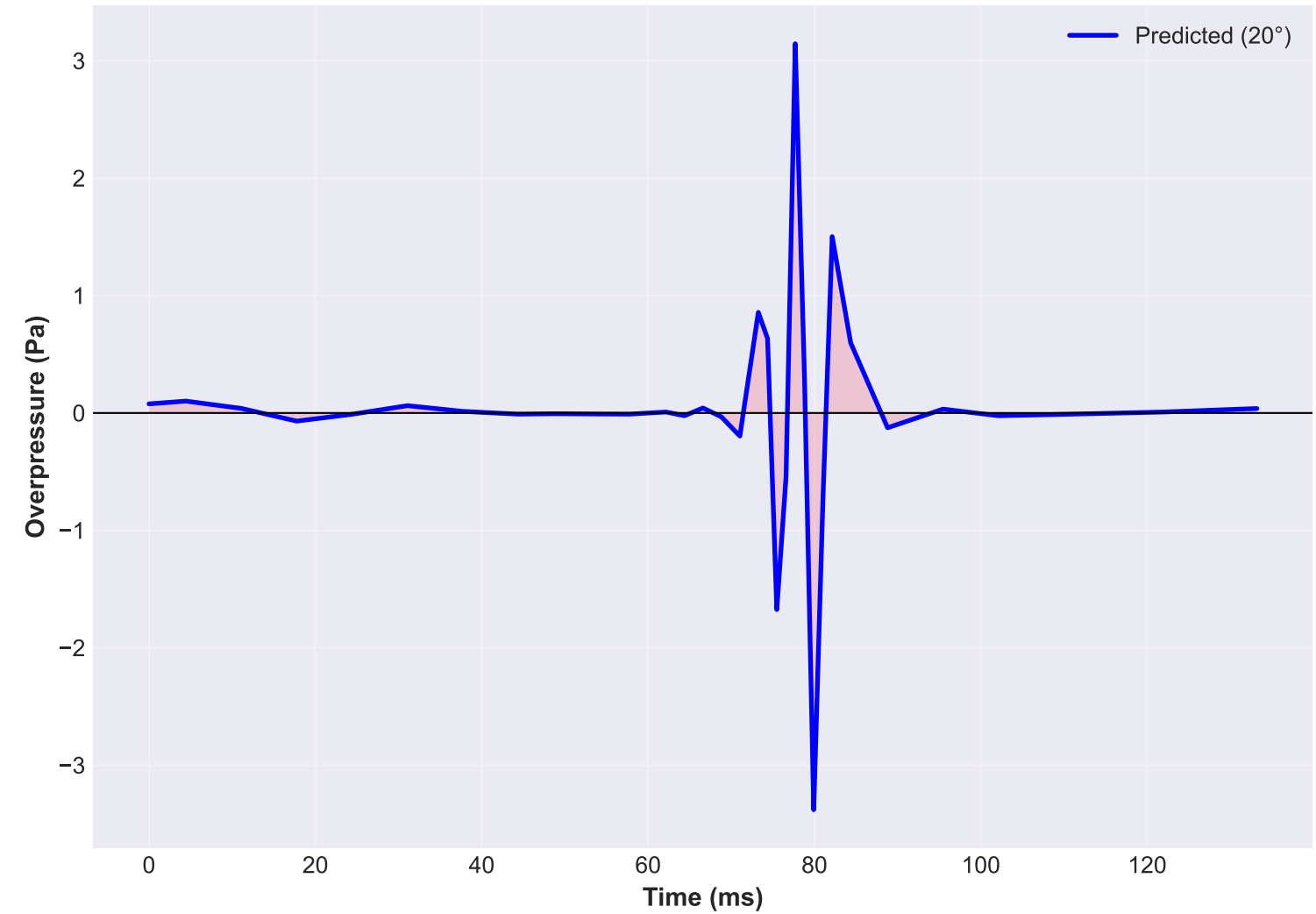


Table 4.2: Perceived Loudness at Different Azimuth Angles

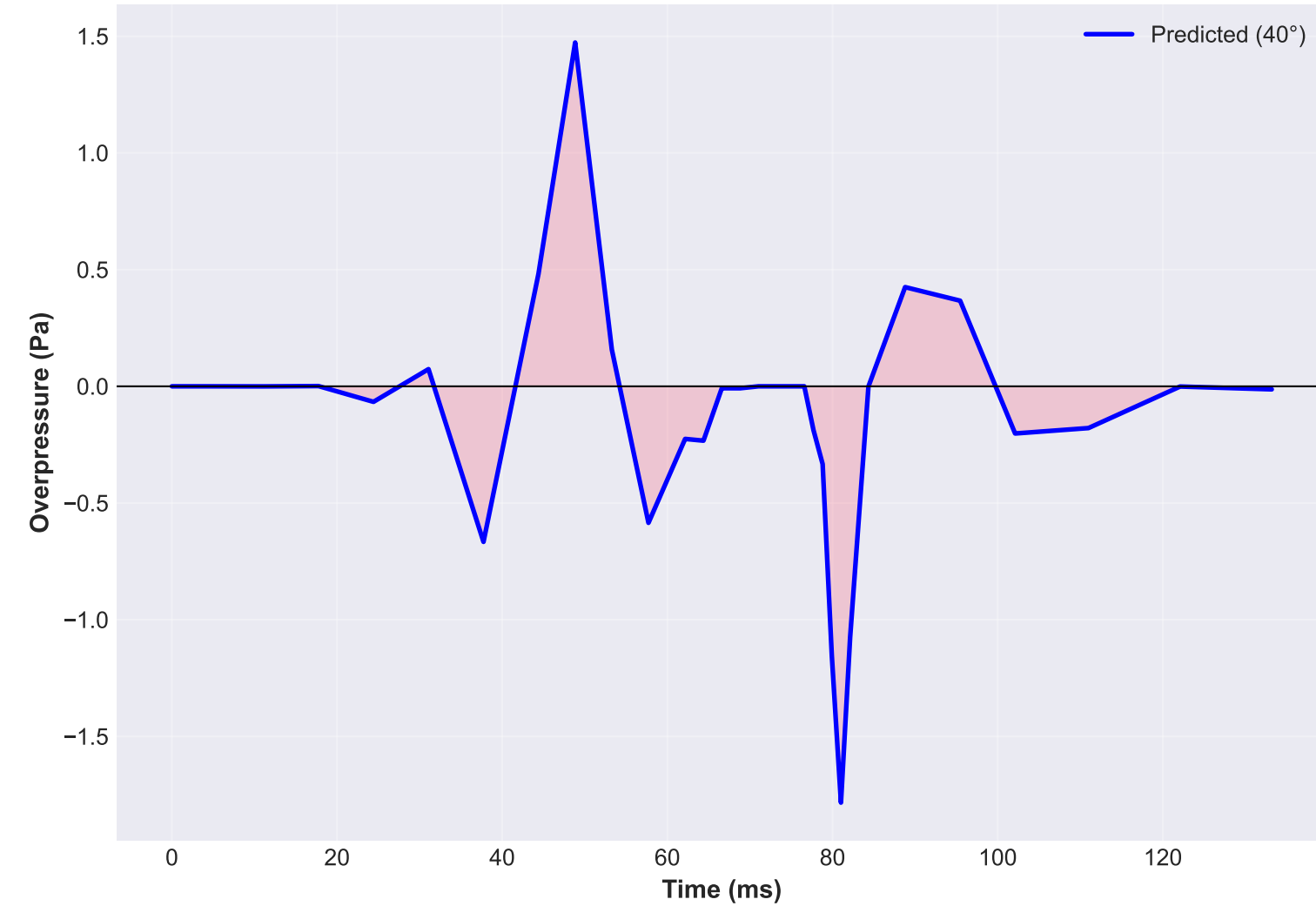
Azimuth 0° | PLdB: 0.00 (Expected: 81.30)



Azimuth 20° | PLdB: 190.94 (Expected: 81.33)



Azimuth 40° | PLdB: 206.12 (Expected: 82.35)



Comparison: Table 4.2 Results

