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Geoacoustic model at the DH-1 long-core site in the Korean continental margin of the East Sea

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A long core of 23.6 m was acquired at the DH-1 site (37°36.651′N and 129°19.709′E) in the Korean continental margin of the western East Sea. The core site is located near the Donghae City and the water depth is 357.8 m deep. The long-core sediment was recovered using the Portable Remotely Operated Drill (PROD), a fully contained drilling system, remotely operated at the seafloor. The recovered core sediments were analyzed for physical, sedimentological, and geoacoustic properties mostly at 10∼30 cm intervals. Based on the long-core data with subbottom and air-gun profiles at the DH-1 core site, a geoacoustic model was firstly reconstructed including water mass. The geoacoustic model comprises 7 geoacoustic units of the core sediments, based on the measurements of 125 P-wave velocities and 121 attenuations. The P-wave speed was compensated to in situ depth below the sea floor using the Hamilton method. The geoacoustic model DH-1 probably contributes for reconstruction of geoacoustic models reflecting vertical and lateral variability of acoustic properties in the Korean continental margin of the western East Sea.

Keywords: long core, geoacoustic model, East Sea, continental margin, P-wave speed

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