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Coda waves are considered to be composed of incoherent waves scattered by distributed heterogeneities in the Earth medium. The excitation level of coda waves is the most important parameters characterizing attenuation of the real Earth medium. Analyzing spectral attenuation of coda waves, we estimated coda Q values in the lithosphere of the Korean peninsula. During the period from 1995 to 2004, 574 NS-component seismograms registered by Korea Meteorological Administration (KMA) and Korea Institute of Geology, Mining and Materials (KIGAM) seismic networks with epicentral distances less than 100 km and magnitudes between 1.4 and 4.9 were selected for this study. We estimated coda Q values using the single isotropic scattering model at center frequencies of 1.5, 3, 6, 9, 12, 15 and 18 Hz. This study shows significant spatial variation in the frequency range from 1 to 6 Hz and strong frequency dependence of coda Q in the region. Estimated coda Q value at 1 Hz ( $Q_0$ ) and n value range 80-300 and 0.5-1.0, respectively. The values have high correlation with the regional geology in the Korean peninsula. Low  $Q_0$  and high  $Q_0$  values are mainly obtained at the regions consisted of sedimentary rocks, for instance Kyeongsang-supergroup, and granitoid regions, respectively. The  $Q_0$  values in the study area agree well with those of the eastern China and Kyushu, western Japan. Furthermore, our obtained n values are also good in harmony with those of Japan.