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## Station Correction of P-Alert Network to Improve Magnitude Estimation for Earthquake Early Warning

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Magnitude estimation for earthquake early warning has been shown that it can be achieved by utilizing the relationship among the first three seconds P-wave amplitude, hypocentral distance and magnitude. However, the regression models in previous studies about P-Alert didn't include station correction factors, which may cause non-negligible effects. Thus, to improve the precision of magnitude estimation, we take station corrections into consideration when building the regression model. For the reason that station corrections are the unobserved latent variables of the model, we adopt the iteration regression method, which is based on the expectation-maximization algorithm, to determine them. By using this method, we are able to approach the values of both the station corrections and the coefficients of the regression model after several iterations. Our preliminary results show that after utilizing the iteration regression method, the standard deviation reduces from 0.30 to 0.26, and the station corrections we get range from -0.70 to 0.66.