Seismic Location Calibration For 30 International Monitoring System Stations in Eastern Asia

Clint Conrad, Mark Fisk, Vitaly I. Khaliturn, Won-Young Kim, Igor Morozov, Elena Morozova, Paul G. Richards*, David Schaff, Felix Waldhauser, Michael West

*Maxson Research Corporation, Lamont-Doherty Earth Observatory, University of Wyoming

Introduction

We have reviewed the progress of an ambitious industry research consortium, comprised of five institutions, that is working to achieve an integrated performance of Pn and a dual arrival-based method that can be implemented in practical, on-site seismographs in order to improve the capability to locate nuclear events based on the deployment of the International Monitoring System (IMS) and the International Comprehensive Test Ban Treaty (CTBT). The IMS is a global network of seismographs and other sensors designed to monitor nuclear explosions. The CTBT is an international treaty that prohibits nuclear explosions and other nuclear explosions.

Method and Preliminary SSSCs

We are using four of the companies to develop a full-scale prototype test program to validate the conceptual and technical feasibility of the approach. We have conducted experiments in Central Asia, where the thick crust varies greatly, and are also developing new algorithms. These technologies are being tested in the United States, where the crust is relatively thin.

Evaluation of Bondar’s method

We have reviewed our results for Bondar’s method with those compiled by V. Bondar, which are based on published results. We note that our results are generally lower than those compiled by V. Bondar. Our results are based on published and unpublished results, and we have also updated our results to be consistent with current standards.

Conclusion

Our results indicate that the approach is feasible and that it can be implemented on-site. We also see potential for improvements in the methodology. We will continue to refine our results and to prepare for further testing in the field.