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# SOFTWARE ADVANCES IN EDUCATIONAL SEISMOLOGY

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"Networking School Seismology programs" is part of the 2010-2014 EU FP-7 funded NERA project (Network of European Research Infrastructures for Earthquake Risk Assessment and Mitigation). As part of this project developments have been made to the educational software tools SeisGram2K written by Anthony Lomax and freely available from http://alomax.net.fr . A key component of educational seismology in secondary schools is to encourage students and teachers to work directly with seismic data from recent earthquakes that they have either recorded themselves with simple seismometer systems or have accessed in near real-time through networked seismic stations elsewhere. Traditional seismic analysis tools as sued by seismologists are either too complex for occasional use (eg EarthWorm, SEISAN or SeisComp) or else require expensive licenses (eg MATLAB based systems). Teachers and students require free software that is intuitive and easy to use. Standalone software tools written for schools or amateur seismologists have filled this role successfully (eg AmaSeis and WinQuake) however they are platform dependent (Windows only) and require installation on each machine to use. SeisGram2K is written in JAVA and can run as a standalone application on windows, Mac or Linux machines and can be run as a java-applet through any java enabled web-browser thereby encouraging widespread accessional use in schools without the onerous burden of installing applications on every machine.

In order to make the SeisGram2K software package more useful for schools it has been modified to include an interactive traveltime analysis tool which allows users to slide a seismogram across a traveltime graph of P and S arrivals, matching peaks to establish the epicentral range to the event. The addition of simple frequency and spectrogram analysis tools allow students and teachers to invesitiaget eth frequency/time relatonships of seismograms and learn a little of the spectral filtering properties and dispersive nature of the earth. Finally helicorder type plots allow users to quickly and easily view continuous waveform archives (either on a local disk or an internet server) in order to identify likely event candidates.

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