

Wiggle stereo method for 3D seismicity maps

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A new simple method for stereo imaging named "Wiggle Stereo Images" is applied for the seismicity maps. This method employs an animated gif image on PC screen in which a couple of images are displayed alternatively in short time step. Without using special glasses, the pseudo stereo effect can be achieved with motion. The two stereo images are made with same procedure of our previous version (Okamoto,2008) employing the Generic Mapping Tools(Wessel and Smith, 1988) for using Chroma Depth 3D Glasses. Our procedure is quite simple that in mapping process the longitudes of earthquakes are added or subtracted by small offset values depend on their depth to introduce a stereo parallax from slightly different viewpoints, right and left. A ray tracing tool, Povray(Buck et.al.1991) is used for making yet another version. The hypo-center data used here is all the same as our previous version. Both the GMT and the Povray versions each have advantages and drawbacks, and work only on PC screen instead of on printed paper. The construction of gif images is made with Gimp, a general image editor, although the longitude offset and the time steps for "wiggle" are not fully fixed yet.

These images are suitable not only for plate subduction zones but also for active fault zones where deeper earthquakes are covered by a shallow earthquake cluster along on a vertical fault. A current problem is that how the land surface image is put above the underground seismicity. Despite the limitation of our method, this simple and easy mapping system will be useful for educational or outreach purpose for seismic display.

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