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# Regional, Depth and Time dependencies of Strong motion in northern seismic gap of Chile

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Recent megathrust earthquakes have highlighted the fact that earthquake properties vary along depth and may also show regional and time dependencies. In order to evaluate the impact of these variations on ground shaking, we analyze interface earthquakes ground-motions in northern Chile (lat -24° to -19°). We compared the frequency contents of 158 earthquakes which occurred at the subduction interface. These earthquakes include the Pisagua Earthquake (01/04/2014, Mw 8.1) and its foreshocks and aftershoks. Recorded ground-motions are first used to test recent subduction ground-motion models (Abrahamson et al. 2015 and Montalva et al. 2015) In a second step, regional, depth and time dependencies of ground motions are analyzed.