



StackSplit - a plugin for multi-event shear wave splitting analyses in SplitLab

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The SplitLab package (Wüstefeld et al., Computers and Geosciences, 2008), written in MATLAB, is a powerful and widely used tool for analysing seismological shear wave splitting of single event measurements. However, in many cases, especially temporary station deployments close to seaside or for recordings affected by strong anthropogenic noise, only multi-event approaches provide stable and reliable splitting results.

In order to extend the original SplitLab environment for such analyses, I present the StackSplit plugin that can easily be implemented within the well accepted main program. StackSplit grants easy access to several different analysis approaches within SplitLab, including a new multiple waveform based inversion method as well as the most established standard stacking procedures.

The possibility to switch between different analysis approaches at any time allows the user for the most flexible processing of individual multi-event splitting measurements for a single recording station. Besides the provided functions of the plugin, no other external program is needed for the multi-event analyses since StackSplit performs within the available SplitLab structure.