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A new database of Source Time Functions (STFs) extracted from the SCARDEC method

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SCARDEC method (Vallée et al., 2011) offers a natural access to the earthquakes source time functions (STFs), together with the first order earthquake source parameters (seismic moment, depth and focal mechanism). We first present here some new approaches and related implementations done in order to automatically provide broadband STFs with the SCARDEC method, both for moderate (down to magnitude 5.8) and very large earthquakes. The updated method has been applied to all the earthquakes since 1992, providing a new consistent catalog of source parameters associated with STFs. Applications are expected to be various, as STFs offer quantitative information on the source process, helping fundamental research on earthquake mechanics or more applied studies related to seismic hazard. On the other hand, they can be also seen as a tool for Earth structure analyses, where the excitation of the medium at the source has to be known. The catalog now contains 2889 events (including earthquakes till 2014/12/31), and we plan to update it on a regular basis. It is made available through a web interface whose functionalities are described here.