Supporting Information for

Insights on Earthquake Triggering Processes from Early Aftershocks of Repeating Micro-Earthquakes

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Additional Supporting Information (Files uploaded separately)

Captions for Datasets S1

Introduction

This dataset contains the repeating earthquake catalog build in Lengliné & Marsan 2009. The catalog has been generated considering earthquakes occurring in the Parkfield area between January 1984 and June 2007. It comprises 2414 events distributed in 334 repeating sequences. All earthquakes in the catalog have been relocated using double-difference relocation technique. To be considered in a same group two earthquakes must have i) a mean coherency computed over the P-wave higher than 90%, ii) a source overlap in the horizontal direction higher than 70% and iii) a difference of magnitude less or equal to 0.2.

This dataset is build from the NCSN, (Northern California Seismic Network) Northern California Earthquake Catalog. Events occurring at short time scale after a previous event or after the 2004, M6 Parkfield event might be missing.

Lengliné, O., & Marsan, D. (2009). Inferring the coseismic and postseismic stress changes caused by the 2004 Mw= 6 Parkfield earthquake from variations of recurrence times of microearthquakes. *Journal of Geophysical Research: Solid Earth (1978–2012)*, *114*(B10).

Data Set S1. Repeating earthquake catalog. The first column is the along strike position of the events (in km). The second column is the perpendicular to strike direction (in km) and the third column is the depth (in km). Horizontal positions are given relative to the 2004, M6 mainshock epicenter (Latitude:35.81816, Longitude:-120.36600). Positive values along strike are given towards South-East. The fourth column is local magnitude. The fifth column is the repeating earthquake sequence number and the sixth column is

the event number in the current repeating sequence. Seventh column is the event origin time. Format for the date is given by yyyymmddhhmmss.