Reviewer Comments to Author:

In this manuscript, the authors developed a new physics-based approach for earthquake forecasting and implemented to the Meishan Fault. The approach might be beneficial for subsequent studies on seismic hazard assessment. This work is interesting and the manuscript is well written. I have some comments, which are detailed below.

- Table 1, I am very surprised that there is no uncertainty for return period. Thus, the authors assumed that each earthquake is characteristic with identical stress release. However, many of theoretical models and observations disagree the assumptions. For example, after the 2011 Tohoku earthquake, the occurrence of events with normal mechanism suggests coseismic stress drop are larger than the accumulated stress loading. In addition, the return period along the Meishan Fault between the last two events (1792 and 1904) is 113 year, which is not consistent with the assumption.

- The assumed parameters listed in Table 1 are mainly based on the references for general description of the parameters. It is desired to obtain specific parameters for the Meishan Fault and neighbouring regional tectonic regime so that the uncertainty of the result might be minimized. Alternatively, application to other fault system with better investigation, e.g., the Chelungpu Fault, might provide a better demonstration for this approach.

- It is known that the Meishan Fault as well as the 1906 earthquake is with strike-slip mechanism, i.e., both maximum (σ_1) and minimum (σ_3) principal axes are horizontal. I am not quite sure if the fault with strike-slip mechanism also fulfils the assumption of equation (7).

- In '3 The Poissson process and earthquake probability', I agree that the Poisson model is a stationary function. However, I expect the equation (2) and (3) are unnecessary since they are identical to equation (1).

(In equation (2), $\frac{(1-e^{-108/162})-(1-e^{-107/162})}{1-(1-e^{-107/162})}=\frac{e^{-107/162}-e^{-108/162}}{e^{-107/162}}=1-\frac{e^{-108/162}}{e^{-107/162}}=1-e^{-1/162}$; in equation (3), $\frac{(1-e^{-118/162})-(1-e^{-117/162})}{1-(1-e^{-117/162})}=\frac{e^{-117/162}-e^{-118/162}}{e^{-117/162}}=1-\frac{e^{-118/162}}{e^{-117/162}}=1-e^{-1/162}$. Both of them equal to the equation (1) when v=162 and t*=1.

- Table 1, earthquake depth is a crucial parameter for the approach. However, I am confused if it is defined by hypocentral depth or rupture depth. In addition, according to field survey, the Meishan Fault obtains surface repture, i.e., the range should be as shallow as 0 km.

- Table 1, I expect the authors want to express 'Median value' instead of 'Central value'.

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