

1. FFM_model.txt lists the model parameters of our preferred finite fault model of 2012 Nicoya, Costa Rica event, that inverted jointly with hr-GPS/lr-GPS, teleseismic and strong ground motion datasets. In each row, the position (lat/long/depth), moment/slip, strike/dip/rake, initial time/source duration and in plane positions x/y are listed for each grid.

The grid is placed in the center of each subfault. The grid spacing is 7.5 km * 7.5 km.

2. 1Dstructure.txt lists the 1-D layered model parameters of the local 1-D model, that is used in hypocenter relocation and Green's function calculation. Thickness, V_p , V_s and density are listed for each layer. The receiver side model, which is a simple standard continental crust model is also listed in the same table, which is used to calculate teleseismic Green's functions.

3. FigS1.pdf and FigS2.dpf show the hr-GPS/strong ground motion waveform fitting of our preferred model, together with the waveforms produced by the up-dip slip patch.

Red and black waveforms are the waveforms observed and fitted, respectively. Green waveforms are produced by grids located within 5th~13th columns along strike and 3rd~7th rows along dip, which present the waveforms produced by the up-dip slip patch.