

EGU2020-2856

<https://doi.org/10.5194/egusphere-egu2020-2856>

EGU General Assembly 2020

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## Source mechanism of recent seismic events and microzonation studies along Sagaing Fault near Nay Pyi Taw, capital of Myanmar

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In 2005, the capital of Myanmar was moved to the newly designed city of Nay Pyi Taw, some 300 km north of Yangon. Both Yangon as well as the capital Nay Pyi Taw are situated along the 1200 km long north-south trending Sagaing Fault, an active strike-slip fault which showed large and disastrous earthquakes in the past. Almost nothing is known about details of the Sagaing Fault in the area of Nay Pyi Taw, neither the precise location of different branches of the Sagaing Fault, nor the precise location of recent seismic events along different branches of the fault, nor the distribution and depth of the sedimentary layers in and around Nay Pyi Taw.

Since 2014, 4 shallow earthquakes with magnitudes larger than  $M_L=4$  are reported near Nay Pyi Taw. Some were clearly felt in the capital. The different location solutions reported by local and international agencies indicate a location accuracy not better accurate than 5 km. We derived relocations and moment tensor analyses as well as meaningful model uncertainties for these events. The results show that the Sagaing Fault near Nay Pyi Taw may follow different active branches. While geological mapping indicates an active branch west of Nay Pyi Taw, the event locations and source mechanisms of the recent seismic activity indicate an active branch under and east of Nay Pyi Taw. Here, a geological mapping is complicated as sediments of unknown thickness cover the basement. Therefore, a microzonation study has been started with the aim to determine the fundamental resonant frequencies of the sedimentary layers, their spatial variability, and the amplification factors. First results of this ongoing project with more than 50 noise recordings in and around Nay Pyi Taw indicate amplification of ground motion with a factor up to 10 in distinct frequency ranges from 0.3 – 10 Hz.