

## Apology Regarding the Mashiki Main Shock Record

We are very sorry for all of the trouble we have caused everybody.

Regarding the 2016 published joint authored paper (Hata et al., 2016), the anonymous survey data for Mashiki was presented on September 25, 2017. Upon receiving questions regarding the survey data we undertook a new careful examination of the data, and we were able to confirm that there was not an error with the presentation of the data, that is to say that there are large problems with the data itself.

<http://committees.jsce.or.jp/eec2/node/108>

If these errors had been noticed from the beginning, and the writing of the paper and data publication had not happened, this situation could have been avoided. Given that it was pointed out the analysis was lacking, we can make no satisfactory reply. Because the analysis was insufficient, we are at the current state where the paper was published and the data was presented, and we deeply regret this situation.

Before the presenting of this data, there was one point where another individual (who shall remain anonymous here) did point out a discrepancy on December 19th, 2016. Comparing the signal of the P-waves initial shock to other records, that individual thought it seemed unnatural. If we had sincerely listened at that time and performed a reanalysis, it might have been possible to notice the errors sooner and address them. However, it was vaguely thought to be due to a special characteristic of the seismograph, and it was not investigated more thoroughly. For missing this opportunity, and for being unable to meet the standards expected by those receiving the information, we are extremely apologetic.

After publication, in July of 2016 the data release site was created and operated. For the data release, at first using the data presenting site of the Earthquake Engineering Committee was considered, but because the data could not be downloaded by people who are not members of the Japan Society of Civil Engineers, and because there was not an English guide, it was proposed to use an individual release site constructed through Osaka University. However, after hearing from Osaka University that it would be difficult, out of kindness we constructed the site on this server. As a result, data

with wide reaching errors was circulated, and there is no doubt we must share in that blame. We are very sorry.

The recorded data showed that Mashiki experienced previously unthinkable strong levels of shaking. From this it was thought that determining the mechanism that caused this was an important issue, and the hypothesis was formed that the cause was something within the ground, resulting in the formation of a research group to investigate the ground beneath Mashiki. There were numerous findings from the investigation of the ground beneath Mashiki, but one result was that the BSSA published paper (Goto et al., 2017) was made to conform to the survey data as a basis. As a result, everybody involved with the research and everybody who accepted these research results was disappointed, and we are extremely sorry for this. Including this paper, related papers already published in which Satou is the first author are currently in the process of being sequentially withdrawn.

We had the intention of getting valuable information out to a wide range of researchers and businesses, and to help with the restoration of the community, but the result was the spread of misunderstanding and an increase in the negative impact. To all related parties who used the data, and to everybody who worked so hard following the Kumamoto Earthquake, we have made things very difficult for you, and we are deeply sorry.

We are gathering all of the facts of this incident, and we are currently proceeding publicly. As there is new action involving this incident, we will be making further reports.

We are very sorry for this incident.

September 28th, 2017  
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