Additional File 3

Correlation peaks of South Crater

Fig. A2 shows the cross-correlation coefficient in the lower-frequency band, focusing on the infrasonic signals from South Crater. The resolution of the lag time around 1.5 s is improved by the same procedure as used in Fig. 4. A correlation peak around $\tau = 1.55$ s appears with the eruption onset (at 15:39:45 on April 19, 2018), which we regard as the signal from Y2a. After the vent widening at 18:40:51, the correlation peak shifts to shorter τ in the high-frequency band (Fig. 4b). Such a shift is not apparent in the low-frequency band before 3:57 on April 20.

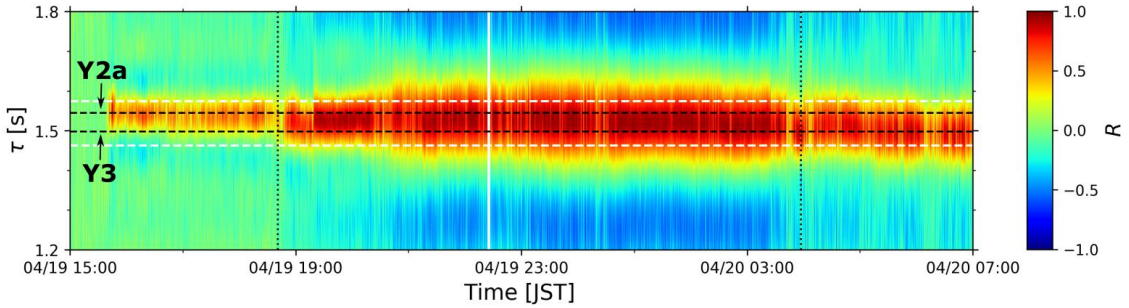

Fig. A2. $t - \tau$ plot of the cross-correlation coefficient in 1–7 Hz from 15:00 on April 19 to 7:00 on April 20. The vertical white lines represent data-missing periods. The horizontal white dashed lines represent the range of the expected lag times of South Crater (1.46–1.58 s). The horizontal black dashed lines are the expected lag times of the craters Y2a ($\tau = 1.55$ s) and Y3 ($\tau = 1.50$ s). The vertical dotted lines mark times of the vent widening onset (18:40:51 on April 19) and re-increase of high-frequency signal power (3:57:00 on April 20).