



## **Depth of the main crustal and mantle interfaces beneath the Gorely volcano (Kamchatka) based on the receiver function analysis**

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Gorely volcano is located in the southern part of the Kamchatka peninsula. It is two-tier structure with an old shield volcano at the base and a younger edifice on the top. The subducting Pacific oceanic Plate is located at the depth of 120 km beneath the volcano. The receiver function method was used to investigate the 1D structure beneath the volcano. From the continuous yearly seismograms recorded by a temporary network consisting of 16 seismic stations, we selected more than 600 records corresponding to teleseismic events which were used for the receiver function analysis. Based on the method by Zhu and Kanamory, we have determined the depth of the Moho interface at 38 km and that of the Conrad discontinuity at 26 km. These values correspond to the well exposed continental crust. The receiver functions also provide a rather prominent signal corresponding to a discontinuity at ~300 km depth; however, no clear signatures of deeper interfaces and slab interfaces are determined in this study. This study is the first attempt to determine the depth of the major interfaces beneath the Gorely volcano.