

## Absolute gravity measurements at Sakurajima volcano during the period 1998-2002

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Since 1975, repeated LaCoste relative gravity measurements have been conducted in and around Sakurajima volcano, Southern Kyushu, Japan. The observation results suggested the mass and density increase beneath the summit crater during the period of active stage with continuous summit eruptions. To clarify both special and time changes of gravity field accurately and in the absolute sense, we began the FG5 absolute gravity measurements combined with those using LaCoste gravimeters in 1998. In this paper, we discuss the absolute gravity data measured in Sakurajima volcano during the period from 1998 to 2002. The FG5 absolute gravity measurements were conducted 5 times (July 1998, July 1999, September 2001, March 2002 and September 2002) at both or either of the two stations: SVO located at the western part of this volcano and HAR located at the flank. The solid earth tide, the pole tide, the barometric effect and the ocean tide loading effects were corrected for the observed data. The absolute gravity changes of SVO are found to be less than 1 microgal per year since 1999, indicating the insignificant absolute gravity changes there. Although the data of HAR are affected by some various noises, it is suggested that the mass and density increase observed since 1975 seems to stop during almost all of our observation periods, in conjunction with the results of LaCoste measurements.