

## An attempt to obtain earthquake-related events from stalactite

KAWABATA, Kuniyo<sup>1\*</sup> ; KUBOTA, Yoshimi<sup>2</sup> ; TANAKA, Hidemi<sup>3</sup> ; TSUNOMORI, Fumiaki<sup>4</sup>

<sup>1</sup>The Kagoshima University Museum, <sup>2</sup>National museum of nature and science, <sup>3</sup>School of Science, The University of Tokyo, <sup>4</sup>Geochemical Research Center, Graduate School of Science, University of Tokyo

Dripstones in limestone cave such as stalactites and stalagmites showing colored banding are thought to record some kind of change in the process of their growth. In many cases, dripstones have been studied for the purpose of revealing paleoenvironmental change. Their growth is directly affected by groundwater recharge passing through cracks. The open states of the cracks are easily modified by tectonic deformation such as earthquake. Growing dripstones, therefore, record not only paleoenvironmental change, but possibly also tectonic event. Here we try to detect an event caused by tectonic deformation by analyzing stalactite having banding texture.

We got stalactites from Kuzuu district in Tochigi prefecture and stalagmites from Ishigaki Island in Okinawa prefecture. We observed banding texture under microscope, analyzed chemical composition by ICP-MS and EPMA and carried out radioactive carbon dating.

The result shows that Si, Al, Mg and Fe are concentrated on dark bands, which implies emplacement of clay minerals on the surface of the Kuzuu stalactite and Ishigaki stalagmite. The AMS<sup>14</sup>C dating result displays that carbonate of Kuzuu stalactite grew from 37,000 to 33,000 (<sup>14</sup>C age). We recognized a growth rate anomaly around the middle of the stalactite. In this presentation we discuss possible environmental factor and tectonic event to form banding textures on Kuzuu stalactite and Ishigaki stalagmite.

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