

U-Pb systematics of lunar meteorite NWA 2977

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The lunar meteorites are important because they would give us a new insight into the unexplored region of the Moon. North West Africa (NWA) 2977 is identified as olivine cumulate lunar meteorite, which was discovered in Morocco in 2005. So far, we have found a remarkable shock melt vein (SMV) in the thin section, which had suffered from the impact melting and rapid cooling.

In this study, in order to investigate the thermal history of NWA 2977, we carried out the in-situ U-Pb dating of phosphate grains in/out of the SMV, using Nanoscale Secondary Ion Mass Spectrometer (NanoSIMS) at the Atmosphere and Ocean Research Institute, University of Tokyo. Most of the phosphates give a crystallization age of 3132 ± 67 Ma (1σ). Whereas, one grain out of the SMV shows a slightly disturbed U-Pb systematics, indicating the very recent shock event (< 346 Ma). At the conference, we also discuss μ -value ($^{238}\text{U}/^{204}\text{Pb}$) of NWA2977.