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Migration and mobility in the early medieval settlement in Thunau/Kamp using $^{87}Sr/^{86}Sr$ Isotope ratio measurements by MC-ICPMS

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The use of Sr isotope ratios has been applied systematically for clarifying questions about migration patterns of humans and animals. In consequence of geologically induced differences in the isotopic composition, $^{87}Sr/^{86}Sr$ ratios are characteristic for a specific region. Humans and animals take up strontium primarily via drinking water and diet. Since strontium has similar chemical properties to calcium, it is mainly stored in teeth and bones. Tooth enamel is formed in the early childhood and is not subject to significant changes in later life. Therefore, the enclosed strontium has the same isotopic composition as the environment in which the individual was living during his early years, provided that the food came from the close proximity. Issue of this study was the early medieval (9^{th} to 10^{th} century AD) settlement in Thunau/Kamp. In order to assess the biogenic Sr isotopic signature of the Thunau settlement area, environmental samples including soil, rocks, water and plants were taken at the excavation site and in the immediate vicinity. They represent the local strontium signal to which the isotopic compositions of historic human tooth samples (enamel and dentine) were compared. The $^{87}Sr/^{86}Sr$ ratios in tooth enamel and dentine give insight about residential characteristics of the settlement of Thunau/Kamp in comparison to the fortified hilltop settlement located in close proximity.