Determination of I$^{129}$ in environmental solid samples using pyrolysis separation and accelerator mass spectrometry measurement - DTU Orbit (19/11/2018)

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An optimized pyrolysis method was presented for release of iodine from environmental solid samples with almost quantitative recovery of iodine. The released iodine trapped in alkali solution was separated using a simple and reliable AgI precipitation method, which was directly used for determination of I$^{129}$ using accelerator mass spectrometry (AMS). The mechanism of iodine released in pyrolysis was explored. Surface soil samples collected from the Northwest China were successfully analyzed for I$^{129}$, showing that I$^{129}$ in this area falls to the background level of North Hemisphere.

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