**Supplementary data notes for "Observation of centimetre scale argon in alkali feldspars: implications for 40Ar/39Ar thermochronology" by Flude, Halton, Kelley, Sherlock, Schwanethal and Wilkinson**

**Irradiation Parameters and constants for $^{40}Ar/^{39}Ar$ data:**

New Instruments Noblesse Mass Discrimination: 295 based on linear power law

**Irradiation Details:**

Irradiation Number McM53 (Crystal A)
Date irradiated: 21/07/2009
Irradiation Number McM68 (Crystal B)
Date irradiated: 02/09/2011

**Atmospheric Argon Ratio**

$^{40}Ar/^{36}Ar$ = 298.56 (Lee et al 2006)

**Interfering isotope production ratios**

$(^{40}Ar/^{39}Ar)K = 0.0085 \pm 0.0000425$
Ca corrections were not applied.

**Decay Constants**

$^{40}K\ \lambda$ $5.5545 \times 10^{-10}\ a^{-1}$ (Renne et al, 2010)
$^{39}Ar$ $2.5762 \times 10^{-3}\ a^{-1}$ (Stoenner et al., 1965)
$^{37}Ar$ $0.01983\ d^{-1}$ (Renne & Norman, 2001 )

**Standards and J-Values**

GA1550 98.8 ± 0.1 Ma (Renne et al., 1998, 2010)
J-value calculated by linear extrapolation between standards.
J-Value McM53: $0.01041 \pm 5.2 \times 10^{-5}$
J-Value McM68 $0.01265 \pm 6.3 \times 10^{-5}$

**Data table notes**

**Table_S1** provides the blank and decay-corrected Ar-isotope and age data for Crystal A, along with system blank data
**Table_S2** provides the blank and decay-corrected Ar-isotope and age data for Crystal B, along with system blank data

39-high and 36-high are the high-mass potential interferences at masses 39 and 36, caused by hydrocarbons. 35 is the peak at mass 35, caused by Cl.
Data in *italics* are analyses that gave $^{36}Ar$ yields indistinguishable from or lower than blank, and an atmospheric $^{40}Ar$ correction has not been carried out.
Blank corrections were made using part-day averages, depending on blank behaviour during the day.

**References**


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