Contents of American Mineralogist Electronic Deposit Item AM-03-032

These data are deposited in connection with "Observations on the relationship between crystallographic orientation and biasing in apatite fission-track measurements," American Mineralogist, v. 88, p. 817-829, 2003, by Richard A. Ketcham. The data files in this archive contain the apatite fission-track length and Dpar measurements first reported by Carlson et al. (1999) and also analyzed by Donelick et al. (1999). The files are in text format, and stored in a nested directory structure. Two types of files are present: length measurements and D_{par}/D_{per} (length of etch figure parallel and perpendicular to crystallographic *c* axis, respectively) measurements.

Length measurement files

Directories

ay, b2, b3, dr, fc, hs, kp, ol, pc, pq, rn, sc, ti, un, wk: Original data. There is one file for each mount measured. In experiments that were measured both with and without Cf-irradiation, the measurements that employed Cf-irradiation are included here.

noCf: In experiments that were measured both with and without Cf-irradiation, these are the measurements that did not employ Cf-irradiation.

gtalr, ltalr: In experiments showing accelerated length reduction of high-angle fission tracks, some calculations were performed on subsets of tracks above and below the angle marking the transition between elliptical and accelerated length reduction tracks (Donelick et al., 1999). These are the subsets that were selected, with outliers deleted.

File name format

Most file names have the following format: "L<apatite>1<run number>1.a1g", where <apatite> is the apatite type abbreviation and <run number> is the number of the annealing run, from Carlson et al. (1999). Files in the "gtalr" and "ltalr" directories have "g" and "l" respectively appended to their file names. In the "noCf" folder, file names have the format "L<apatite>1h<run number>1.a9g".

File format

Three columns of space-delimited text. Column 1 is length in micrometers, column 2 is not used, and column 3 is angle to crystallographic *c* axis in degrees.

Dpar/Dper measurement files

Directory

Dpardper: One file for each apatite, recording measurements on a single mounts.

File name format

All files are named according to: "<apatite>.gd2", where <apatite> is the apatite type abbreviation.

File format

All files have 10 lines of header data; the tenth line has the number of measurements. Following the header there are two space-delimited columns; the first column is unused (all zeros), and the second column alternates between D_{par} and D_{per} measurements, in micrometers..

References

Carlson, W.D., Donelick, R.A., and Ketcham, R.A. (1999) Variability of apatite fission-track annealing kinetics I: Experimental results. American Mineralogist, 84, 1213–1223.

Donelick, R.A., Ketcham, R.A., and Carlson, W.D. (1999) Variability of apatite fission-track annealing kinetics II: Crystallographic orientation effects. American Mineralogist, 84, 1224–1234.

Ketcham, R.A. (2003) Observations on the relationship between crystallographic orientation and biasing in apatite fission-track measurements. American Mineralogist, 88, 817-829.