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Some remarks on fission-track observational biases and crystallographic orientation effects

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ABSTRACT

I comment on some aspects of fission-track observational biases and orientation effects arising in recent work by Donelick, Ketcham, and Carlson, and their relation to earlier work by myself and colleagues. Isotropic and anisotropic random line segment models provide a sound basis for understanding variation in fission-track measurements, and some useful mathematical formulae are available. The effects of orientation bias can be avoided, without introducing arbitrary assumptions, by modeling confined track length conditional on angle to the c axis.