Geophysical Research Abstracts
Vol. 13, EGU2011-7754, 2011
EGU General Assembly 2011

Automated Processing to derive Dip Angles of Englacial Radar Reflectors in Ice Sheets

Louise Sime, Richard Hindmarsh, Hugh Corr, and Gisela Hiess
British Antarctic Survey, Ice Cores, Cambridge, United Kingdom (lsim@bas.ac.uk)

We present a novel automated processing method for obtaining layer dip from radio-echo sounding (RES) data. The method is robust, easily applicable, and can be used to process large (several terabyte) ground and airborne RES datasets using modest computing resources. The automated RES processing (ARESP) method comprises several basic steps including: noise reduction; radar layer identification; measurement of orientation and other object properties; elimination of noise in the dip datasets data; and the collation of valid dip information. Pending test results and further development (Hiess et al. in prep), the large-scale dip datasets produced by the method should aid glaciologists seeking to understand ice flow dynamics in Greenland and Antarctica.

Please also visit CR1.20 Poster: "Deriving the internal ice layer architecture from Radio-Echo Sounding data of Rutford Ice Stream, Subglacial Lake Ellsworth and Fletcher Promontory"

Sime, L.C.; Hindmarsh, R.C.A. & Corr, H.F.J. (in press). Automated Processing to derive Dip Angles of Englacial Radar Reflectors in Ice Sheets, Journal of Glaciology (http://researchpages.net/publications/722/)