EDITORIAL

11th Workshop on Electromagnetic Induction in the Earth

The 11th Workshop on Electromagnetic Induction in the Earth was held from 26 August to 2 September 1992 at the Victoria University of Wellington, Wellington, New Zealand. This was the first time that the biennial Workshop has been held in the southern hemisphere and, despite the distance from the major centres of induction work in North America and Europe, was well attended with nearly 120 participants (including 22 students) representing a total of 19 countries. The scientific program was spread over 5 days and comprised the following sessions:

- Distortion effects on MT data and their removal
- Novel laboratory studies of relevance to EM induction
- Induction studies in geothermal and volcanic regions
- Tectonic interpretation of regional conductivity models
- New mathematical methods in modelling and inversion
- Contributions by EM studies to multidisciplinary geoscientific transects
- EM studies of global geodynamic processes
- New data acquisition and processing techniques
- General contributions

In total some 120 papers were presented including 6 review papers. Panel discussions were held at the conclusion of some of the sessions and ensured lively debate over topical issues currently concerning the induction community such as the interpretation of lower crustal conductivity anomalies in terms of carbon or fluids.

From the afternoon of Friday 28 August to the evening of Sunday 30 August an extended excursion was held which took some 80 of the participants to the Central Volcanic Region of New Zealand. This is the area of the country which contains the majority of New Zealand's geothermal fields and also the spectacular volcanoes of Tongariro National Park.

This special issue contains review papers, initially presented at the Workshop, which well illustrate the major advances which have occurred over the past few years. In the interpretation of regional anomalies, as described by Colin Brown, this is a result of greater recognition of the causes and mechanisms of enhanced crustal and upper mantle electrical conductivity originating from tectonic processes. Similarly, Pascal Tarits' review of global geodynamic processes shows how improved techniques for data analysis and the removal of surficial distortions are now leading to the recognition of much finer detail structure in deep conductivity than has previously been recognized. The lively review by Art Raiche summarises the present state of numerical modelling, some of the new techniques, such as

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simulated annealing and genetic algorithms, which are still being developed and deals also with some of the problems which still remain. The rather more specialized review by Jeff Roberts and Jim Tyburczy looks at an area of laboratory electrical conductivity studies which has not previously been widely studied, namely the frequency dependence of electrical properties.

All in all, the 11th Workshop showed that the induction community is in good heart and becoming more confident in itself of the contributions which it can make to geoscience. All induction workers now look forward to the 12th Workshop which is to be held from 8–14 August 1994 in Brest, France.

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