

Meeting Summary of the IASPEI Task Group on Scattering and Heterogeneity

Jan 14, 2009, Capetown, SA

The IASPEI general assembly was held in Capetown, South Africa for Jan 12-16, 2009. We had a special session on scattering in the morning of Jan 14. There were ten oral presentations focusing on seismic wave scattering and attenuation, wave envelope synthesis and seismic interferometry. The session was successful since we had active discussions. We had a group meeting after the session with the following participants: Michael Korn (Germany), Alexander Gusev (Russia), Hisashi Nakahara (Japan), Masahiro Kosuga (Japan), Eduard Carcole (Spain), Tae-Kyung Hong (Korea), Rushan Wu (USA), Qunghe Li (China), and Haruo Sato (Japan).

Haruo Sato reported the group activities after the 2005 IASPEI meeting in Santiago, Chile. As the first product, Wu and Maupin edited a book entitled "Advances in Wave Propagation in Heterogeneous Earth", which was published as the 48-th volume of "Advances in Geophysics" (Series Editor, R. Dmowska) in 2007. That volume mainly contains introductions to and basic reviews of modeling methods for elastic waves in laterally heterogeneous structures that are most commonly used in contemporary seismology. We started to edit a book as a state-of-the-art summary of researches on seismic wave scattering and heterogeneity of the Earth. We put a special focus on small-scale heterogeneities that cause seismic wave scattering in short periods. This is the most important objective of our task group for the last four years. Sato and Michael Fehler edited a book entitled "Earth Heterogeneity and Scattering Effects on Seismic Waves", which was published by Academic Press as the 50-th volume of "Advances in Geophysics" (Series Editor, R. Dmowska) in Dec. 2008. This book is dedicated to a pioneer of short period seismology, the late Keiiti Aki.

Haruo Sato announced the step down from the task group leader and recommended Michael Korn as the next task group leader. All the participants supported Michael Korn as the next leader, and he accepted to take up the leader position. The change of the task group leader was reported at the evening meeting of the Commission on Seismological Observation and Interpretation (Chair, Dmitry Storchak). Michael Korn will work as a member of the commission.

At the task group meeting, new leader, Michael Korn expressed the thanks of the task group to Haruo Sato for his very active and successful engagement for the task group over the past 4 years.

He then proposed to expand the scope of the task group to approaches that make use of phase information of scattered wave fields in addition to amplitude information, including the rapidly evolving fields of coda wave interferometry and passive image interferometry. Also the link between scattering effects and physical properties of the Earth material needs to be strengthened. He suggested to add new members to the task group, preferably from the younger generation, who are actively working in these fields. Suggestions are welcome. One goal is to collect a sufficient number of strong contributions for the 2011 IUGG General Assembly to publish a proceedings volume. As further activity of the task group Michael Korn suggested to take a step towards establishing and distributing a standard technology to measure scattering and attenuation parameters from seismogram envelopes, so that measurements in various regions become more comparable and can be used to finally establish a worldwide model of small scale heterogeneity of the lithosphere.

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