IMS is an international facility for large-scale scientific projects originally aiming at the monitoring of a Comprehensive Nuclear Test Ban Treaty. Whether IMS would like to be concerned also with the fundamental scientific problems of seismology and physics of the Earth’s interior depends to much extent on its interest in the state-of-the-art and future progress of this scientific branch. Such a concern is quite reasonable, since generally it is not possible for a scientific branch to be always in a fast-growing period.

Seismology: Endless Frontier
Wu Zhongliang and Peter Suhadolc
International Association of Seismology and Physics of the Earth’s Interior (IASPEI)

The curve of discovery

If one plots cumulative knowledge as a function of time using almost any measure of knowledge, the curve will rise slowly at early times, then rise rapidly during a relatively short interval, then flatten out to become asymptotic to the total quantity of knowledge available in that subject.

Accumulation of seismic data
Figure from:

At present seismology is in a period of fast development. A new series of discoveries is underway, following the first series in the 1910s to 1930s which led to a clear picture of the Earth’s interior, and the second one in the 1950s to 1970s which led to the establishment of global plate tectonics.

Among the driving engines of the new progresses in seismology and physics of the Earth’s interior we can certainly list:

- increasing needs of society for the reduction of earthquake disasters (GSHAP, 1999, www.seismo.ethz.ch/GSHAP)
- interdisciplinary discussion on the physics of the Earth’s interior (Song & Richards, 1996)
- application of new technologies (Rogers & Dragert, 2003)
- accumulation of high-quality observational data (Waldhauser & Schaff, 2008)

For development of seismology, see:

For seismology-related meetings, see: http://www.iaspei.org/meetings/forthcoming.html

For seismology-related meetings, see: http://www.ctbto.org

The curve of discovery

Driving engines of the new progresses in seismology: a few examples

Big Science Devices in the development of basic science

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IMS

In the perspective of seismology, IMS is by no means merely a machine simply applying well-established technologies. Similar to the role of the Hubble Space Telescope in astronomy, IMS provides a well-functioning global observation facility and has the potential to contribute to the new development of seismology and physics of the Earth’s interior.

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Beyond ISS09 Long-term perspective of the collaboration between seismological community and CTBT monitoring community

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Cape Town 2009: the first time for PTS group to attend IASPEI Assembly, having exhibition desks and technique presentations

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Possible follow-up of the ISS09 and possible starting of the long-term cooperation were envisaged by the meeting of ISS and IUGG/IASPEI leaders – in Cape Town in January, and in Vienna in April

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IASPEI proposed a union/inter-association session on CTBT monitoring for the IUGG 2011 General Assembly

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The mechanism of the IMS open data access is getting more clear: project-based open data access within the framework of ISS