



## **The ISC Bulletin as a comprehensive source of earthquake source mechanisms**

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The Bulletin of the International Seismological Centre (ISC) in its current status contains ~81,000 seismic events with only one associated mechanism solution, and ~22,000 events with at least two associated source mechanisms. The main sources of earthquake mechanisms in the ISC Bulletin are reported solutions provided by data contributors. Mechanism solutions from data providers include global agencies, such as the Global Centroid Moment Tensor project (GCMT) and the National Earthquake Information Center (NEIC), as well as various local/regional agencies. ISC computed focal mechanisms based on first motion polarities for more than 5,000 earthquakes are also available, starting from the data year 1938 up to the most recent data month in the reviewed ISC Bulletin. Given the importance of using pre-determined fault plane solutions in different types of studies, we briefly discuss the methodologies adopted by major data providers to the ISC and investigate the intra-event variability of the source mechanisms. We conclude that the overall agreement among different earthquake source mechanisms for the same event as reported by different sources can be as high as 90% for the majority of the cases.