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Sommario/riassunto	This open access book summarizes the results of the collaborative project "GeomInt: Geomechanical integrity of host and barrier rocks - experiment, modeling and analysis of discontinuities" within the Program: Geo Research for Sustainability (GEO: N) of the Federal Ministry of Education and Research (BMBF). The use of geosystems as a source of resources, a storage space, for installing underground municipal or traffic infrastructure has become much more intensive and diverse in recent years. Increasing utilization of the geological environment requires careful analyses of the rock–fluid systems as well as assessments of the feasibility, efficiency and environmental impacts of the technologies under consideration. The establishment of safe, economic and ecological operation of underground geosystems requires a comprehensive understanding of the physical, (geo)chemical

and microbiological processes on all relevant time and length scales. This understanding can only be deepened on the basis of intensive laboratory and in-situ experiments in conjunction with reliable studies on the modeling and simulation (numerical experiments) of the corresponding multi-physical/chemical processes. The present work provides a unique handbook for experimentalists, modelers, analysts and even decision makers concerning the characterization of various types of host rocks (salt, clay, crystalline formations) for various geotechnical applications.