

1. Record Nr.	UNINA9910299411403321
Autore	Wang Shuying <1982->
Titolo	Monotonic, Cyclic and Postcyclic Shear Behavior of Low-plasticity Silt // by Shuying Wang
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2018
ISBN	981-10-7083-0
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XIII, 156 p. 91 illus., 80 illus. in color.)
Disciplina	624.151
Soggetti	Geotechnical engineering Engineering geology Engineering—Geology Foundations Hydraulics Natural disasters Geotechnical Engineering & Applied Earth Sciences Geoengineering, Foundations, Hydraulics Natural Hazards
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Sommario/riassunto	This book gathers the main research findings on monotonic, cyclic and postcyclic shear behavior of low-plasticity. Drawing on the low-plasticity silt from the Mississippi River Valley, it determines that the silt's critical state line can be changed due to liquefaction, and thus offers valuable insights and reference data for further investigations on soil mechanics and engineering applications to verify the above research findings. Low-plasticity silt with a plasticity index of less than 10, though commonly found around the world, nonetheless differs greatly from sand and clay in terms of its shear behavior. Failure to take into account the differences in shear characteristics between silt, clay and sand will lead to overconservative designs of offshore structures. In particular, dynamic loading from earthquakes, trains and ocean waves can set off the liquefaction of low-plasticity silt, and with

it, major disasters and losses of properties. Additionally, some civil infrastructures have failed not only due to cyclic loading during an earthquake, but also due to reduction of shear strength or stiffness after that. .
