A comprehensive guide to modern-day methods for earthquake engineering of concrete dams

Earthquake analysis and design of concrete dams has progressed from static force methods based on seismic coefficients to modern procedures that are based on the dynamics of dam–water–foundation systems. Earthquake Engineering for Concrete Dams offers a comprehensive, integrated view of this progress over the last fifty years. The book offers an understanding of the limitations of the various methods of dynamic analysis used in practice and develops modern methods that overcome these limitations.

Written for graduate students, researchers, and professional engineers, Earthquake Engineering for Concrete Dams offers a comprehensive view of the current procedures and methods for seismic analysis, design, and safety evaluation of concrete dams.
Develops procedures for dynamic analysis of two-dimensional and three-dimensional models of concrete dams

Identifies system parameters that influence their response

Demonstrates the effects of dam–water–foundation interaction on earthquake response

Identifies factors that must be included in earthquake analysis of concrete dams

Examines design earthquakes as defined by various regulatory bodies and organizations

Presents modern methods for establishing design spectra and selecting ground motions

Illustrates application of dynamic analysis procedures to the design of new dams and safety evaluation of existing dams.