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[ADVANCED](#)[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

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[\[PDF \(872K\)\]](#) [\[References\]](#)**SHEAR MODULUS AND STRAIN OF LIQUEFIED GROUND AND THEIR APPLICATION TO EVALUATION OF THE RESPONSE OF FOUNDATION STRUCTURES**Shigeru MIWA¹⁾ and Takaaki IKEDA¹⁾

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Since the seismic behavior of pile foundations in a liquefiable ground is primarily affected by the behavior of the ground, this paper discusses the usefulness of equivalent linear analysis considering the reduced shear modulus of liquefied soil for evaluating the dynamic behavior of liquefied ground. A multilumped mass model having liquefied soil springs set by reduced shear modulus is then applied to damaged buildings to verify its applicability. Shear strain levels and shear modulus in liquefied soil are also evaluated using strong motion records. In this light, a method of evaluating the reduced shear modulus of liquefied soil is proposed for dynamic analysis of liquefied ground by equivalent linear analysis

Key Words: liquefaction, soil-pile-interaction, equivalent linear method, shear modulus, shear strain

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