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[\[PDF \(812K\)\]](#) [\[References\]](#)**ROBUSTNESS OF PREDOMINANT DIRECTION OF NEAR-SOURCE GROUND MOTIONS AND ITS UTILIZATION IN PORT PLANNING**Atsushi NOZU¹⁾ and Wilfred D. IWAN²⁾

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A countermeasure against near-source ground motions should be established based on careful examinations of their characteristics. Since a tendency has been found for the strike-normal component to be predominant in the near-source region of a large intra-plate earthquake, it is expected to be a reasonable decision to orient important quay walls perpendicular to the strike of the active fault of concern. For the purpose of validating this decision, two kinds of analysis are conducted, namely, ground motion simulations to show the effects of fault parameters on the predominant direction of near-source ground motions and non-linear FEM analyses to show the effects of quay wall orientation on its residual deformation.

Key Words: near-source ground motion, predominant direction, fault, quay wall, port planning

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