SUMMARY

A sensitivity analysis on the effect of input parameters on PIANC empirical squat predictions was conducted. Five of the most 'popular' PIANC formulas, including Barrass, Eryuzlu, Huuska/Guliev, Römisch and Yoshimura were investigated for unrestricted or open channels. Input parameters included ship speed V_k, block coefficient C_B and channel depth to ship draught h/T. The fully-loaded post-Panamax *Susan Maersk* containership was used as the example ship. Channel parameters were selected based on reasonable ranges that would occur in the entrance channel of the Port of Savannah, Georgia. A total of 27 cases were run in this sensitivity study. All five squat formulas give reasonable predictions, but the user should be aware of the effects of uncertainties in the input variables. No one formula seems to give consistently better estimates than the others. Many countries and researchers have 'favourites' that they are more comfortable using. The author's preference is to use an average of all five with knowledge of maximum squat predictions and possible constraint violations due to type of channel or ship.