SUMMARY OF THE RESEARCH AT IMPERIAL COLLEGE

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MAST II - Berm Breakwater Structures

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1. The existing Non-linear Shallow-water Wave Equation (NSW) model, from MAST 1, has been re-established and is fully operational. The model has been developed to determine the flow characteristics on the slope and within the permeable layer of porous coastal structures as a result of the effects of incident waves, Figure 1. The model can be used to analyze monochromatic incident waves which are specified by wave height and period.

A User’s Guide has been written for the model. Some more computed examples will be included in the guide in the future.

![Diagram](image)

*Figure 1. An example of the permeable slope for the NSW model*

2. The BOX model has been established and is fully operational to provide a numerical description of the berm breakwater structure in which individual armour units are represented by an equivalent spherical particle, Figure 2. In addition, the model generates an averaged profile of the upper surface layer of spherical particles.

A User’s Guide has been established for the model. Further improvements might be incorporated to increase the flexibility of the model for different structures.