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(54) Title of the invention : GEOGRID REINFORCED RUBBLE MOUND BREAKWATER TO MITIGATE TSUNAMI INDUCED DAMAGES AND METHOD THEREOF

<p>(51) International classification :E02B0003060000, E02D0029020000, E02B0003120000, E04H0009020000, E01C0003040000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)National Institute of Technology Karnataka Address of Applicant :Srinivasnagar PO, Surathkal, Mangaluru - 575025, Karnataka, India Mangalore -----</p> <p>Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)Babloo Chaudhary Address of Applicant :Department of Civil Engineering,National Institute of Technology Karnataka (NITK), Surathkal,Mangaluru-575025,Karnataka,India Mangalore -----</p> <p>2)Manu K Sajan Address of Applicant :Department of Civil Engineering,National Institute of Technology Karnataka (NITK), Surathkal,Mangaluru-575025,Karnataka,India Mangalore -----</p>
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(57) Abstract :

The present disclosure relates to a system (100) and process (200) for developing tsunami resilient geogrid reinforced rubble mound breakwaters against tsunamis. The process involves wrapping biaxial geogrids around the slopes of the rubble mound breakwater, ensuring that the aperture size of the geogrids is smaller than the mean size of the core rubbles to allow effective interlocking and lateral confinement. This method eliminates the need for primary armour layers, relying solely on the geogrids for slope stability and protection. Additionally, the process incorporates precast units of a crown wall with a shear key placed on top of the rubble mound breakwater, and steel sheet piles inserted into the seabed on either end to be embedded into the dense sand. The wrapped geogrid layer offers superior lateral confinement and enhanced slope stability, preventing the dislocation of rubbles during tsunami overflow while maintaining the breakwater's permeability for effective energy dissipation. Figure 1 and 2 will be the reference.

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