Finite Element Model for FAD

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Résumé

A finite element model devoted to flexible marine structures such as FAD is described. The structures is made of cables, floats, moorings. The main hypothesis are that cables are split in bar elements, the current in constant in amplitude and direction, wave is mono-chromatic. The virtual work principle is used to calculate the forces on nodes. The forces taken into account are: tension in cables, weight, buoyancy, bending stiffness of cables, hydrodynamic loadings from current and waves. The equilibrium of the structure is calculated using Newton-Raphson method. Results are given for FAD of 2000 m long, in 1500m deep, current of 1m/s and wave of 12m high.

Mots-Clés: FAD, Finite Element Model

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