**Dynamic Response of Submerged Structures to Bubble Impact
Loading** SHI WEI GONG, EVERT KLASEBOER, JING LOU, Institute of High
Performance Computing, Singapore — This paper presents a study on dynamic
response of a submerged structure to impact loading induced by an underwater ex-
plosion bubble. The structure response to the bubble impact loading is simulated
by a coupled boundary element method (BEM) with finite element method (FEM).
The BEM is used to simulate the physical process of the explosive bubble growth,
contraction and collapse, while the FEM is used to simulate the submerged structure
response to the impact loading induced by the underwater explosion bubble. The
benchmark tests are conducted, showing the capability of the simulation method.
The effects of different charge locations on both structural responses and bubble de-
formations are examined. From the results obtained, some insights to the problem of
submerged structures subjected to impact loading induced by underwater explosion
bubbles are deduced.

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