**THE CAD/FEM STRUCTURAL MODELLING FOR LIQUEFIED GAS CARRIER SHIPS**

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***Abstract:*** This paper focuses on the CAD / CAE-FEM structural modelling techniques applied to double-shell ship hull strength analysis. The full length CAD / FEM models included in this study are developed for two special maritime ships: a LNG liquefied natural gas carrier and a LPG liquefied petroleum gas carrier. The ships strength analyses are carried out under the following loads: ship hull, cargo and ballast weight, still water and equivalent quasi-static head wave pressure. The ship hull equilibrium position into the surrounding water domain reference system and the ship strength assessment are based on own iterative algorithm, implemented as user procedure into the integrated CAD / CAE-FEM SolidWorks Cosmos/M program. This study has been accomplished for the Romanian Scientific Research Authority ANCS-CEEX-M1/X2C16/4409/06-09.

***Key words:***CAD / FEM models, liquefied gas carrier ships.