

LOAD模块介绍

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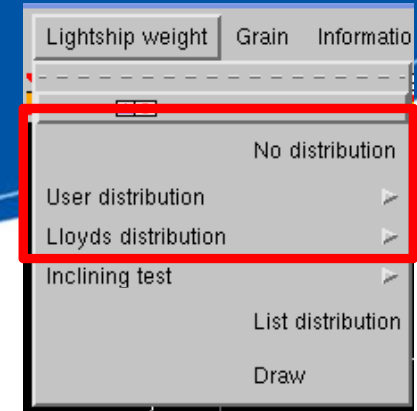


通力有限公司
UNITED FORCE CORPORATION

实现的功能

- 空船重量定义
- 载况定义
- 平衡计算
- 完整稳性计算
- 总纵强度计算
- 最大KG计算
- 谷物计算
- 倾斜试验

空船重量定义 (1)



方法:

1) 没有分布的重量

执行Lightship weight->No distribution命令，定义重量及重心坐标后点击End of menu按钮

2) 分布的重量

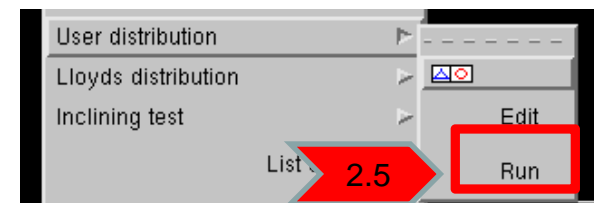
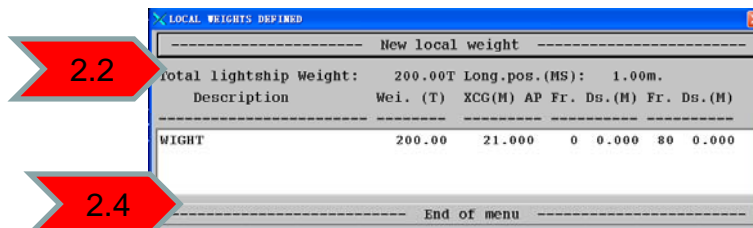
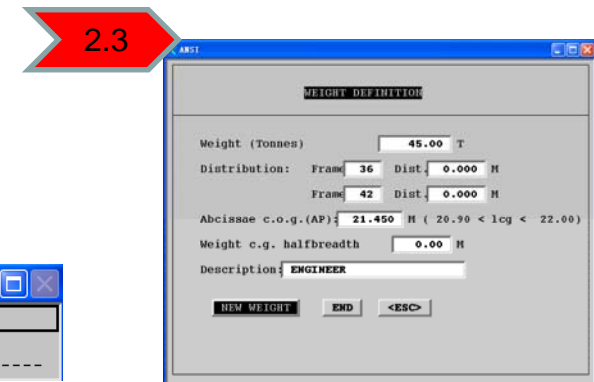
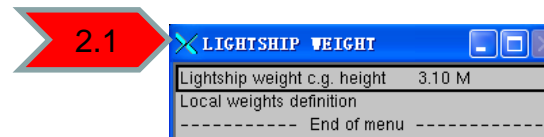
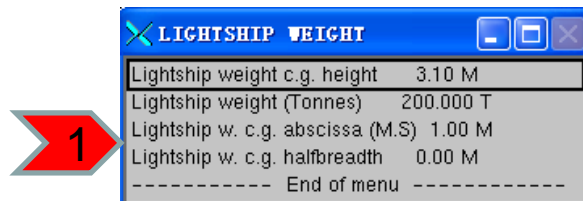
2.1) 执行Lightship weight->User distribution->Edit命令，定义重量重心的高度

2.2) 点击Local weights definition选项，定义重量

2.3) 点击New local weight按钮，在新的对话框里填写重量及分布位置

2.4) 定义完成后点击End of menu结束

2.5) 执行Lightship weight->User distribution->Run命令，运行重量分布



空船重量数据导入、导出

1) 导出

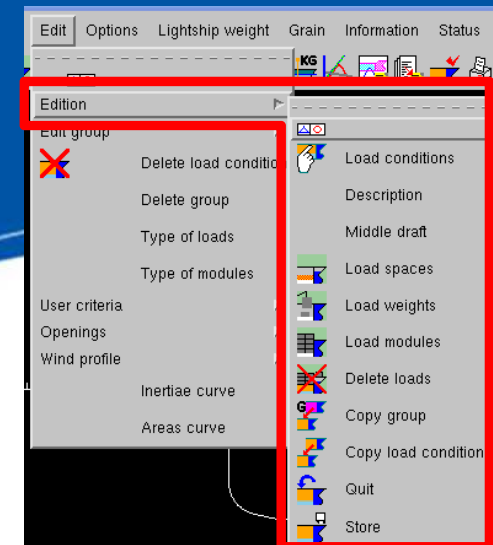
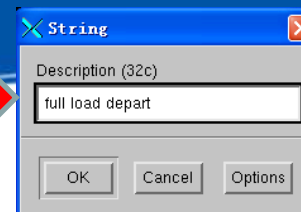
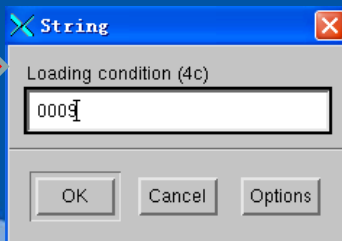
执行File->Save LWT命令：在弹出的对话框中输入文件名。
输出的文件格式为.dat格式。

2) 导入

执行File->Read LWT命令：找到正确的.dat格式的文件进行
导入。

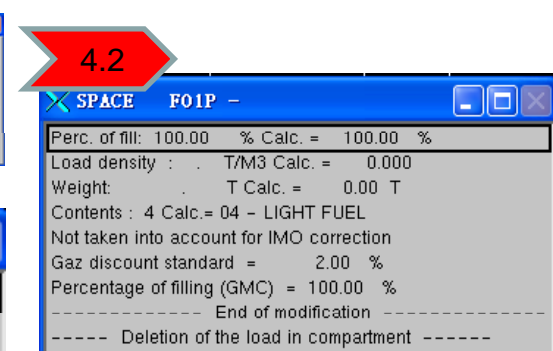
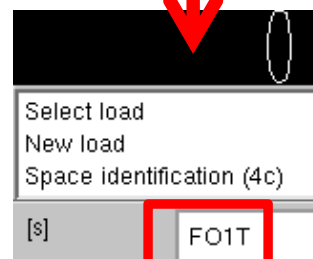
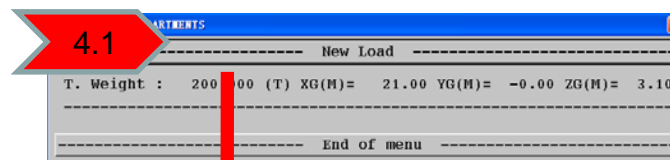
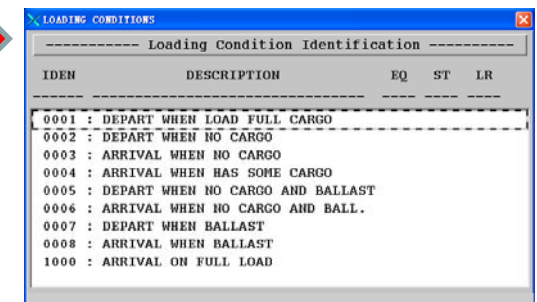


定义载况 (1)



步骤:

- 1) 执行Edit->Edition->Load conditions命令, 点击Loading Condition Identification按钮创建新的载况, 或者编辑已有的载况
- 2) 输入载况的名字后点击OK按钮, 不超过4个字符
- 3) 输入载况的描述后点击OK按钮, 不超过32个字符
- 4) 添加舱室的重量
 - 4.1) 执行Edit->Edition->Load spaces命令, 点击New load按钮后输入舱室的ID号, 或者在操作界面上单击滚轴中键选择其它方式进行选择舱室
 - 4.2) 输入参数

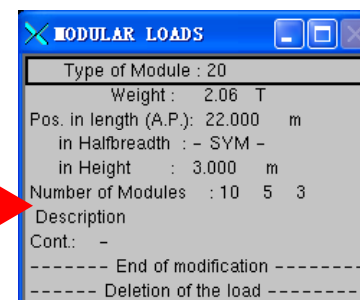
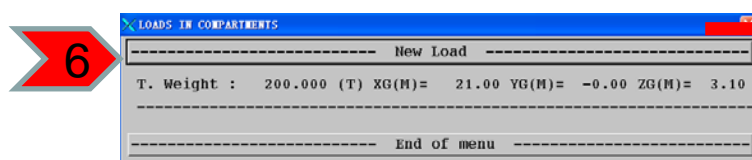
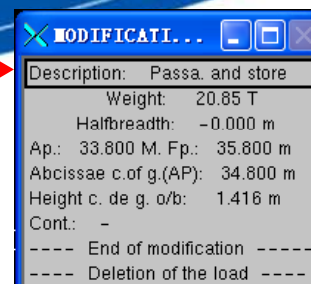
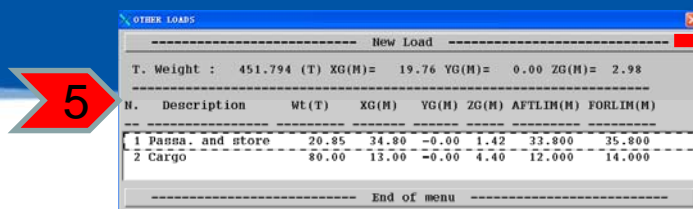


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定义载况 (2)

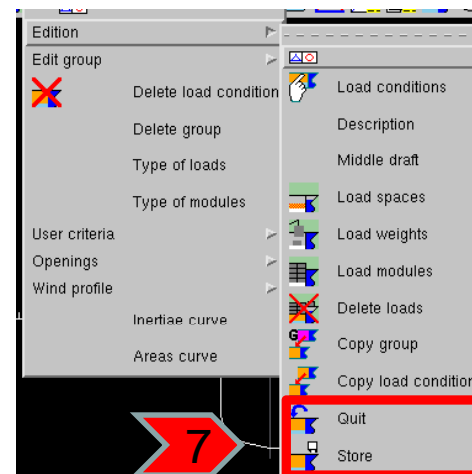
步骤 (续):

- 5) 执行Edit->Edition->Load weight命令, 点击New Load按钮定义新的重量, 定义完成后点机End of menu结束
- 6) 执行Edit->Edition->Load module命令, 加载集装箱的重量 (如果此船装载集装箱可使用此命令, 定义集装箱的基本信息的命令在Edit-> Types of modules)
- 7) 执行Edit->Edition->Store / Quit命令, 保存或不做保存进行退出



备注:

- 1) 可以通过执行Edit->Edition->Copy group命令, 复制组载况;
组载况的含义: 可以把固定的载况编成一个组, 便于添加
组载况的定义: 执行Edit->Edit group菜单下的命令, 定义方法与添加载况相似
- 2) 可以通过执行Edit->Edition->Copy load condition命令, 复制已有的载况然后再进行编辑。



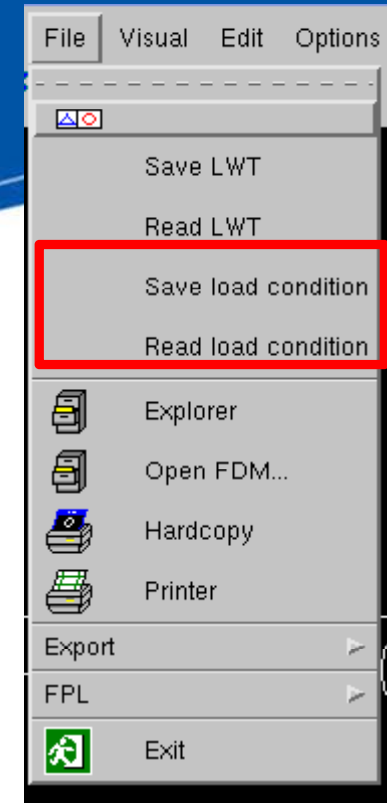
载况数据导入、导出

1) 导出

执行File->Save load condition命令：在弹出的对话框中输入文件名。输出的文件格式为.dat格式。

2) 导入

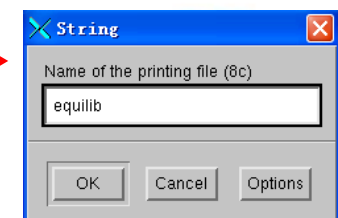
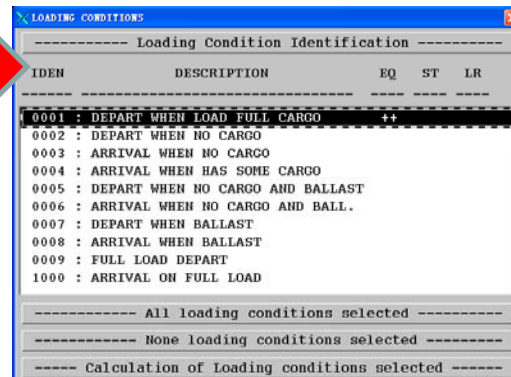
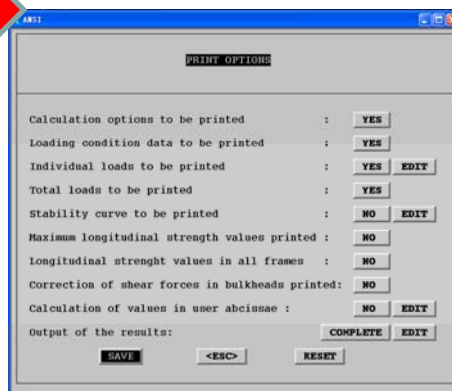
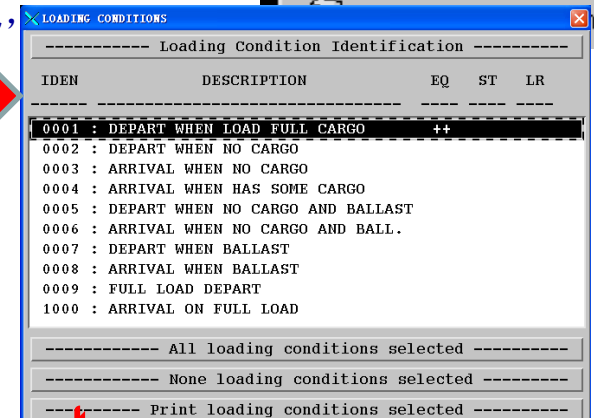
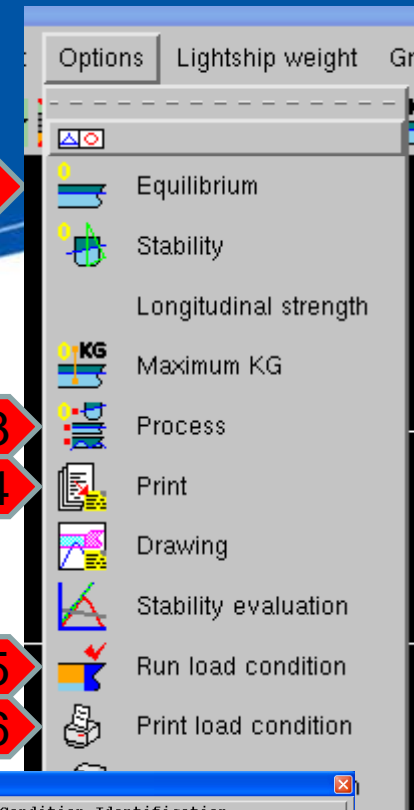
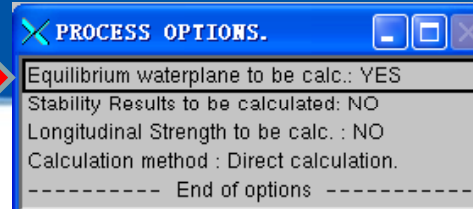
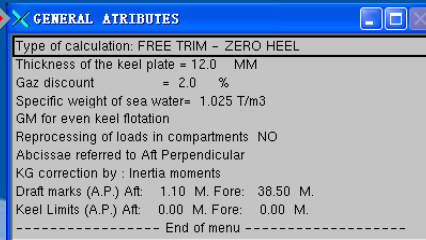
执行File->Read load condition命令：找到正确的.dat格式的文件进行导入。



平衡计算

步骤:

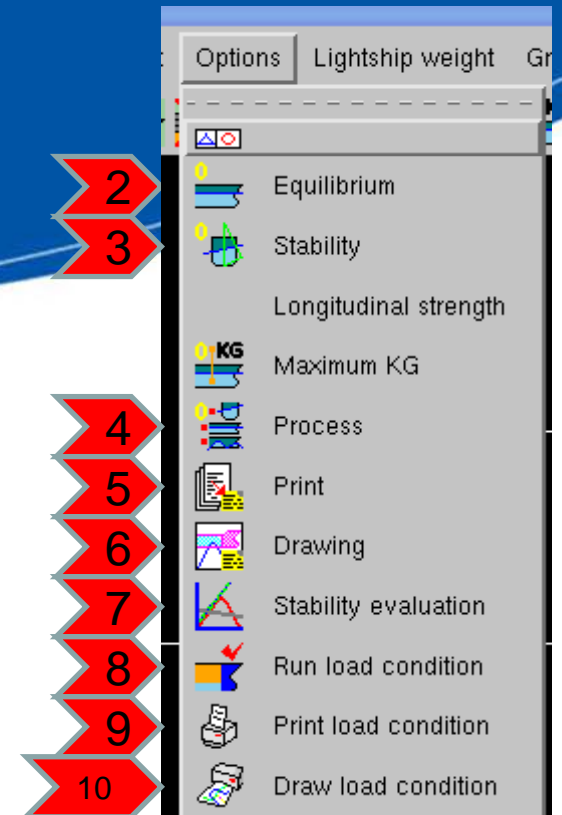
- 1) 定义载况
- 2) 执行Options->Equilibrium命令: 定义平衡的基本信息
- 3) 执行Options->Process命令: 仅在平衡计算选项中选择YES
- 4) 执行Options->Print命令: 选择报告需要输出的内容
- 5) 执行Options->Run load condition命令: 运行选择的载况后点击 Calculation of loading condition selected
- 6) 执行Options->Print load condition命令: 选择需要计算的载况, 点击Print loading condition selected输出平衡计算报告



完整稳性计算

■ 步骤:

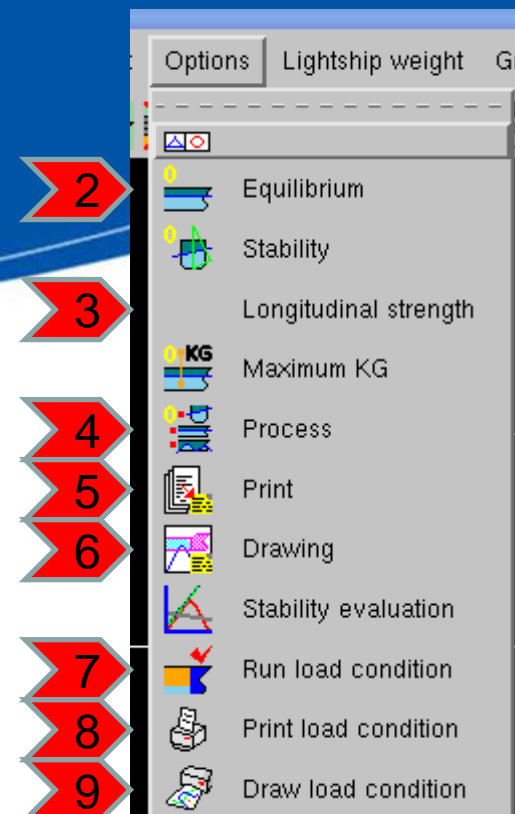
- 1) 定义载况
- 2) 执行Options->Equilibrium命令: 定义平衡的基本信息
- 3) 执行Options->Stability命令: 定义稳性计算的基本信息
- 4) 执行Options->Process命令: 平衡计算和稳性选项中选择YES
- 5) 执行Options->Print命令: 选择报告需要输出的内容
- 6) 执行Options->Drawing命令: 选择图纸需要输出的内容
- 7) 执行Options->Stability evaluation命令: 选择稳性计算的规范
- 8) 执行Options->Run load condition命令: 运行选择的载况后点击
Calculation of loading condition selected
- 9) 执行Options->Print load condition命令: 选择需要计算的载况,
点击Print loading condition selected输出稳性计算报告
- 10) 执行Options->Draw load condition命令: 选择需要计算的载况,
点击Draw loading condition selected输出稳性计算的图纸



总纵强度计算

■ 步骤

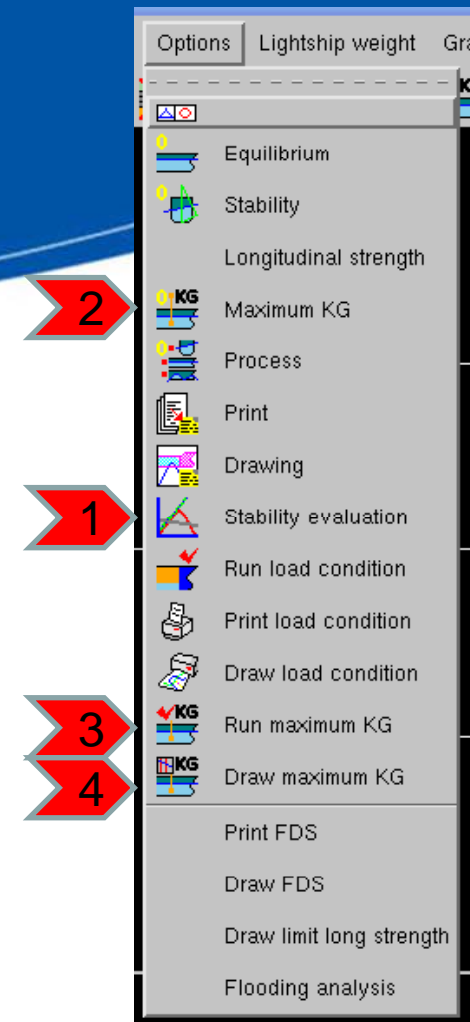
- 1) 定义分布的重量，使用Lightship weight->User distribution命令
- 2) 执行Options->Equilibrium命令：定义平衡的基本信息
- 3) 执行Options->Longitudinal strength命令：定义总纵强度计算的基本信息
- 4) 执行Options->Process命令：总纵强度选项中选择YES
- 5) 执行Options->Print命令：选择报告需要输出的内容
- 6) 执行Options->Drawing命令：选择图纸需要输出的内容
- 7) 执行Options->Run load condition命令：运行选择的载况后点击
Calculation of loading condition selected
- 8) 执行Options->Print load condition命令：选择需要计算的载况，点击Print
loading condition selected输出总纵强度计算报告
- 9) 执行Options->Draw load condition命令：选择需要计算的载况，点击
Draw loading condition selected输出总纵强度计算的图纸



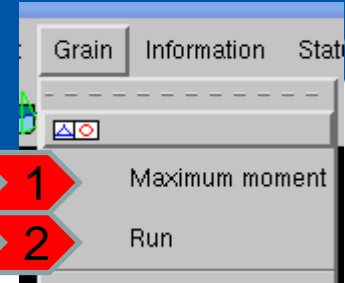
最大KG计算

■ 步骤

- 1) 执行Options->Stability evaluation命令：选择计算的规范
- 2) 执行Options->Maximum KG命令：选择基本的信息
- 3) 执行Options->Run maximum KG命令：输出最大KG计算的报告
- 4) 执行Options->Draw maximum KG命令：输出最大KG计算的图纸



谷物计算



步骤

- 1) 执行Grain->Maximum moment命令，定义基本信息
- 2) 执行Grain->Run命令，运行计算保存报告和图纸

1

MAXIMUM PERMISSIBLE HEELING MOMENTS DUE TO GRAIN SHIFT

CALCULATION OF THE MAXIMUM PERMISSIBLE HEELING MOMENTS DUE TO GRAIN SHIFT

DEFINITION OF THE SHIP'S DISPLACEMENTS TO BE USED FOR CALCULATIONS

MINIMUM DISPLACEMENT OF THE SHIP : 297.3 metric tons

MAXIMUM DISPLACEMENT OF THE SHIP : 457.3 metric tons

INCREMENT TO OBTAIN INTERMEDIATE DISPLACEMENTS : 50.0 metric tons

Note : Intermediate Displacement=Minimum Ship's Displacement+N*Increment (0<N<=26)

DO YOU WANT TO DEFINE SPECIAL SHIP'S DISPLACEMENTS (YES/NO) ? : ☐ NO

DEFINITION OF THE HEIGHTS OF THE SHIP'S CENTRE OF GRAVITY FOR CALCULATIONS

MINIMUM HEIGHT OF THE SHIP'S CENTRE OF GRAVITY(OVER THE BASE)(>0) : 2.040 m

MAXIMUM HEIGHT OF THE SHIP'S CENTRE OF GRAVITY(OVER THE BASE)(>0) : 3.400 m

INCREMENT TO OBTAIN INTERMEDIATE SHIP'S C.O.G. HEIGHTS (>0) : 0.170 m

Note : Intermediate Height=Minimum Height of ship's c.o.g.+N*Increment (0<N<=33)

HEELING ANGLES TO BE USED WHEN CHECKING THE INTACT STABILITY CRITERIA

DO YOU WANT TO USE THE STANDARD IMO ANGLES (12 AND 40 DEGREES)(YES/NO)? : ☐ YES

MAXIMUM HEEL. ANGLE DUE TO GRAIN SHIFT : 12.00 dg LIMIT ANGLE : 40.00 dg

TRIM FOR CALCULATIONS : 0.000 degrees (>0 : DRAFT AFT>FORE)

field with dynamic menu activable by mouse's central button

SAVE <ESC> HELP CLEAR

2

MAXIMUM PERMISSIBLE HEELING MOMENTS DUE TO GRAIN SHIFT

-INFORMATION TO BE SUPPLIED BEFORE STARTING THE CALCULATION PROCESS-

DRAWING FILE (filename.d)

OBTAIN DRAWINGS(YES/NO): ☐ YES DRAWING FILE NAME (1->6 char): grain2

LISTING FILE (name).lis

PRINTED OUTPUT (YES/NO): ☐ YES LISTING FILE NAME (1->8 char): grain2

LISTING ON THE SCREEN

OUTPUT ON SCREEN(YES/NO) ☐ YES

field with dynamic menu activable by mouse's central button

RUN <ESC> HELP

WINDOW FOR ** CONFIRMING OR CANCELLING ** AN ACTION

CALCULATION OF MAXIMUM PERMISSIBLE GRAIN HEELING MOMENTS

** ... PLEASE , CONFIRM THAT YOU WANT TO START THE CALCULATIONS **

CANCEL CONFIRM

INPUT DATA

SET OC NO

SET DP Y

SET DP 297.27 457.33 50.00

SET HG 2.040 3.400 0.170

SET AL 12.000 40.000

TRIM 0.000

GRAPHIC REPRESENTATION OF RESULTS

DISPLACEMENT (T)

MAXIMUM

SEE LISTING

倾斜试验

1

INCLINING EXPERIMENT GENERAL DATA

EXPERIMENT DATE 20080101

TEST PLACE SHANGHAI

SEA STATE FLAT

INSPECTION PERSONNEL 2

FACTORY PERSONNEL 2

SHIP PERSONNEL 2

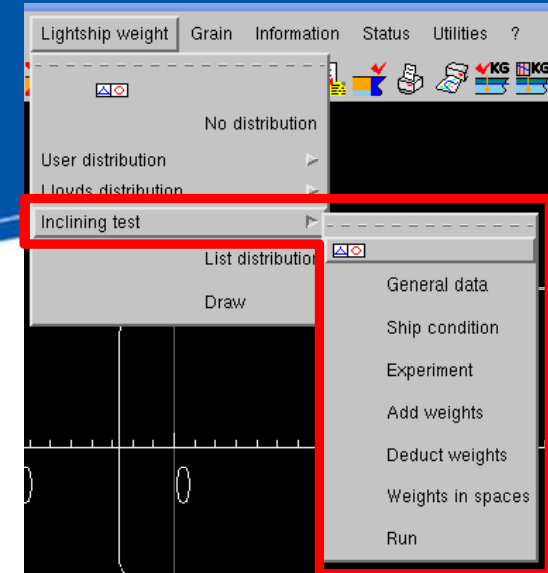
SEA WATER SPECIFIC WEIGHT (T/ M³) 1.025

CALCULATION OPTION READINGS GRV 0.000

SAVE <ESC>

步骤

- 1) 执行Lightship weight->Inclining test->General data命令，定义试验的基本数据
- 2) 执行Lightship weight->Inclining test->Ship condition命令，定义船的初始平衡状态信息
- 3) 执行Lightship weight->Inclining test->Experiment命令，定义试验的重量和摆钟的数据
- 4) 执行Lightship weight->Inclining test->Add weights命令，定义增加的重量
- 5) 执行Lightship weight->Inclining test->Deduct weights命令，定义减少的重量
- 6) 执行Lightship weight->Inclining test->Weights in spaces命令，定义舱室里含有的重量
- 7) 执行Lightship weight->Inclining test->Run命令，运行倾斜试验计算报告



2

EXPERIMENT DRAFTS SITUATION

AFT MARK DRAFT (m.) 2.765

FORE MARK DRAFT (m.) 2.650
(referred to base line)

AFT MARK ABSCISSA (m.) 0.000

FORE MARK ABSCISSA (m.) 44.000
(referred to aft perpendicular)

SAVE <ESC>