命令模式

AXIS α

Sets the axis angle for heel rotations to the given angle.

设定船舶横倾时所围绕旋转的转轴方向。

AXIS *

Sets the axis to where the trim is zero.

设定转轴到纵倾为 0° 的所在轴。

AXIS MINGM

Sets the axis to where the GM is minimum.

设定转轴到 GM 值为最小的所在轴。

AXIS MINE: energyangle [/BOTHdir]

Sets the axis to where the energy is minimum at the specified angle.

设定转轴到指定的横倾角度时能量为最小的转轴。

参数说明

α

Axis angle in degrees; zero for transverse heel; 90° for "aft heel"; -90° for "forward heel". Any angle may be specified, but is internally converted to the range -180° ≤ α ≤ 180°.

转轴，用角度来定义；在船舶中线面上，从船艉指向船艏为 0 度转轴。90 度转轴，则代表横倾时，船舶向尾部倾斜， -90 度转轴。则代表横倾时船舶向首部倾斜。可以输入任何角度，但系统内部会自动转换为转轴角度范围为-180° ≤ α ≤ 180°。

Definition: The axis angle (a) determines the axes about which the vessel heels and trims. a = 0 is the familiar case of heel being to port/starboard and trim being forward/aft. As seen from above, a is a clockwise rotation of the heel/trim axes. At a = 90°, positive heel is directly aft and positive trim is to port.

定义：转轴指定了船舶横倾或纵倾的旋转轴线，0 度转轴就是常用的左右舷横倾和艏艉纵倾的旋转轴线。如上可知，α 为转轴按照顺时针方向旋转的角度，当 α =90° 时，横倾的正方向为船舶向尾倾斜，纵倾的正方向为船舶向左舷倾斜。

energyangle

Heel angle where energy should be minimized. Must be either MAXRA or RA0.

横倾角度，用于计算能量最小的转轴，必须是 MAXRA 或 RA0。

/BOTHDIR

Specifies that heel in both directions should be checked; otherwise heel goes in the direction indicated by the loading, or if that is symmetrical, by the direction of the ANGLES list. When complete, the heel direction in which minimum energy was found is indicated by the new ANGLES list direction.

设定左右舷两个方向的横倾都需要考核；否则横倾方向根据装载来计算，如果为对称装载，则根据 ANGLES 命令的设置方向来计算。当执行完时，计算得出的能量最小时的横倾方向，将储存在 ANGLES 列表中。

Operation

操作

The axis angle is set as indicated. If instead of a number, an asterisk (*) is given, the axis is set so as to make the trim zero. AXIS MINGM sets the axis for minimum GM. AXIS MINE sets the axis for minimum energy at a specified heel angle.

设定转轴角度。如果 axis 后面是*，而不是数字，则转轴设定到纵倾为 0 的转轴。 AXIS MINGM 是设定到 GM 为最小的转轴。AXIS MINE 是设定某横倾角度下能量最小的转轴。

When a nonzero axis angle is in effect, the screen header prominently shows its value and all affected printouts indicate at what angle the axis is set. Otherwise, there is no mention of the axis, thereby avoiding unnecessary complexity.

当使用非 0 度转轴时，屏幕顶部会显著的显示出此转轴的角度，并且相关的打印输出都会说明此转轴角度。否则，将不会显示转轴的信息，以避免不必要的繁琐。

When the AXIS command is issued, it does not change the waterplane: it only changes the definitions of heel and trim.

AXIS 命令不会改变水平面，它只会改变横倾和纵倾的定义。

Since the RA and CC commands drive the heel angle through a given list of values, the actual waterplane orientations for a given list of heel angles will depend on the AXIS setting.

因 RA 和 CC 命令会计算一系列的横倾角度，所以横倾角参考的实际水平面方向要参照 AXIS 的设置。

The Longitudinal, Transverse, Vertical coordinate system is not affected by the AXIS setting. Therefore, none of the data referenced to those coordinates are affected. These include center of buoyancy, center of flotation, BM, etc.

AXIS 的设定并不影响 X,Y,Z 三方向的坐标系统，因此与坐标系统相关的数据并不受影响，包括漂心，浮心，BM 值等。

However, righting arms (both heel and trim) are affected by the axis orientation. Likewise, the interpretation of the moments specified by the HMMT and TMMT commands is that they are in the current heel and trim directions. If the axis is reset where HMMT was previously specified, then that heeling moment is restored; if the axis is changed to an angle where HMMT had not been specified, heeling moment is interpolated using the two sets of HMMT data on either side of the new axis (this does not apply to HMMT WIND, TURN, or TANK).

转轴方向的设置会影响复原力臂（横向和纵向）的计算。例如，命令 HMMT/TMMT,是根据当前横倾和纵倾方向下来计算的。如果先定义横倾力矩 HMMT 后,又重新设定转轴，则横倾力矩会重新生成；如果转轴重设后，而横倾力矩并未指明在这个转轴下的设置，则横倾力矩会根据之前

HMMT 所设置的数据差值得到当前值，并设置到新的转轴下。（不适用于命令 HMMT WIND, TURN, or TANK）。

GM is also affected by the axis, but it is only available derived from the slope of the RA curve when the axis angle is nonzero.

GM 值也受到转轴的影响。但当转轴不为 0 时，GM 值只能通过稳性曲线的斜率得到。

Output:

输出

none.

无

Examples

样例

Setting the axis angle 45° aft:

设定 45 度的转轴。

AXIS = 45

Returning the axis to normal:

复位转轴。

AXIS = 0

Setting the axis such that the trim is zero:

设定纵倾为 0 的转轴。

AXIS = *

Setting the axis such that energy is minimized at the angle of maximum righting arm:

设定转轴到在复原力臂值最大处的倾斜角度时，能量最小的转轴。

AXIS MINE: MAXRA

AXIS ANGLE DIAGRAM

SIGN CONVENTION FOR INCLINATION REPORTING
IN THE RIGHTING ARM TABLE