MAP++ Switches

These switches are valid for MAP++ v1.10.0rc. You can generate this list at run time by adding “help” to the options section of any MAP++ input file.

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MAP Input File section definitions:
  Line dictionary definitions:
    -LineType, --User-defined name of line [-]
    -Diam,     --Line diameter, used to calculate area and line displacement per unit length [m]
    -MassDen,  --Mass (in air) per unit length [kg/m]
    -EA,       --Axial stiffness [N]
    -CB,       --Cable/seabed Coulumb friction coefficient [-]
    -CIntDamp, --Internal structural damping coefficient [Pa-s]
    -Ca,       --Cross-flow added-mass coefficient [-]
    -Cdn,      --Cross-flow drag coefficient [-]
    -Cdt,      --Tangent (skin) drag coefficient [-]
  Node property definitions:
    -Node,     --Node number; first starts at 1 [-]
    -Type,     --Type of node. Must be one of: VESSEL, FIX, CONNECT [-]
    -X,        --Node X position. '#' must prefix CONNECT nodes; constitutes user initial guess [m]
    -Y,        --Node Y position. '#' must prefix CONNECT nodes; constitutes user initial guess [m]
    -Z,        --Node Z position. '#' must prefix CONNECT nodes; constitutes user initial guess [m]
    -M,        --Applied point mass at node [kg]
    -B,        --Applied point buoyancy module at node [m^3]
    -FX,       --Applied X external force at node. '#' must prefix VESSEL and FIX nodes [N]
    -FY,       --Applied Y external force at node. '#' must prefix VESSEL and FIX nodes [N]
    -FZ,       --Applied Z external force at node. '#' must prefix VESSEL and FIX nodes [N]
  Line property definitions:
    -Line,     --Line number; first starts at 1 [-]
    -LineType, --Must match property defined in 'Line Dictions'[-]
    -UnstrLen, --Unstretched line length [m]
    -NodeAnch, --Anchor node number corresponding to 'Node Property Definitions' section [-]
    -NodeFair, --Fairlead node number corresponding to 'Node Property Definitions' section [-]
    -Flags,    --User run-time flag; see below [-]

  Line run-time options definitions
    Outputs:
      -gx_pos,       --Fairlead position in global X [m]
      -gy_pos,       --Fairlead position in global Y [m]
      -gx_pos,       --Fairlead position in global Z [m]
      -gx_a_pos,     --Anchor position in global X [m]
      -gy_a_pos,     --Anchor position in global Y [m]
      -gz_a_pos,     --Anchor position in global Z [m]
      -gx_force,     --Fairlead force in global X (include applied forces) [N]
      -gy_force,     --Fairlead force in global Y (include applied forces) [N]
      -gz_force,     --Fairlead force in global Z (include applied forces) [N]
      -h_fair,       --Horizontal force at fairlead (does NOT include applied forces) [N]
      -v_fair,       --Vertical force at fairlead (does NOT include applied forces) [N]
      -h_anch,       --Horizontal force at anchor (does NOT include applied forces) [N]
      -v_anch,       --Vertical force at anchor (does NOT include applied forces) [N]
      -tension_fair, --Line force-magnitude at fairlead (include applied loads) [N]
      -tension_anch, --Line force-magnitude at anchor (include applied loads) [N]
      -azimuth,      --Line lateral offset angle global X axis [deg]
      -altitude,     --Line inclination angle relative to global XY plane at fairlead [deg]
      -lay_length,   --Length of line on seabed [m]
      -line_tension, --
    Model features:
      -omit_contact,       --Ignore cable/seabed contact
      -seg_size <10>,      --Number of discrete lines in line
      -damage_time <NULL>, --Line breakage occurs at specified time [s]
      -diagnostic <TIME>,  --Run line solver diagnostics until specified time [s] is reached

  Model option definitions
    General model features:
      -ref_position <0.0> <0.0> <0.0>
      -repeat <NULL> ... <NULL>
    MSQS solver options:
      -inner_ftol <float>,
      -inner_gtol <float>,
      -inner_xtol <float>,
      -inner_max_its <int>,
      -outer_tol <float>,
      -outer_max_its <int>,
      -outer_epsilon <float>,
      -outer_bd,
      -outer_cd,
      -outer_fd,
      -pg_cooked <1000.0> <1.0>,
      -krylov_accelerator <3>,
      -integration_dt <0.01>,
```