StatEquation
Class_StateEquation

-stateEquation_type: integer

-c: real

sound speed

-p0: real

-rho0: real

-gamma: real

+statEquation_new()

-stateEquation_init(out this:StateEquation,stateEquation_type:integer,
                    in c:real,out stat_info:integer)

-stateEquation_init(out this:StateEquation,in stateEquation_type:intege
                    in d_c:real,in d_rho:real,in d_rho0:real,
                    in d_gamma:real,out stat_info:integer)

+stateEquation_finalize(in this:StateEquation,out stat_info:integer)

+stateEquation_compute_pressure()

+stateEquation_compute_pressure_scalar(in this:StateEquation,
                                       in rho:real,out p:real,
                                       out stat_info:integer)

+stateEquation_compute_pressure_scalar_Morris(in this:StateEquation,
                                              in rho:real,out p:real,
                                              out stat_info:integer)

-stateEquation_compute_pressure_scalar_Batchelor(in this:StateEquation,
                                                 in rho:real,
                                                 out p:real,out stat_in

+stateEquation_compute_pressure_vector(in this:StateEquation,
                                       in rho:real(:),out p:real(:),
                                       pointer,in num_part:integer,
                                       out stat_in:integer)

+stateEquation_compute_pressure_vector_Morris(in this:StateEquation,
                                              in rho:real(:),
                                              out p:real(:),pointer,
                                              in num_part:integer,
                                              out stat_info:integer)

+stateEquation_compute_pressure_vector_Batchelor(in this:StateEquation,
                                                 in rho:real(:),
                                                 out p:real(:),
                                                 pointer,out stat_info:

+stateEquation_get_c(in this:StateEquation,out stat_info:integer): real

+stateEquation_get_p0(in this:StateEquation,out stat_info:integer): rea

+stateEquation_get_rho0(in this:StateEquation,out stat_info:integer): r

+stateEquation_get_gamma(in this:StateEquation,out stat_info:integer):