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// Main simulation algorithm parameters
  //-------------------------------------------------------
  intparams["ndim"] = 3;
  stringparams["sim"] = "sph";
  stringparams["nbody"] = "hermite4";

  // Simulation id, filename and output time
parameters
  //-------------------------------------------------------
  stringparams["ic"] = "box";
  stringparams["run_id"] = "";
  stringparams["in_file"] = "";
  stringparams["in_file_form"] = "su";
  stringparams["out_file_form"] = "su";
  floatparams["tend"] = 1.0;
  floatparams["tmax_wallclock"] = 9.99e20;
  floatparams["dt_snap"] = 0.2;
  floatparams["tsnapfirst"] = 0.2;
  intparams["Nstepsmax"] = 99999999;
  intparams["noutputstep"] = 128;
  intparams["ndiagstep"] = 1024;
  intparams["nrestartstep"] = 512;
  intparams["litesnap"] = 0;
  floatparams["dt_litesnap"] = 0.2;
  floatparams["tlitesnapfirst"] = 0.0;

  // Unit and scaling parameters
  //-------------------------------------------------------
  intparams["dimensionless"] = 0;
  stringparams["rinunit"] = "";
  stringparams["minunit"] = "";
  stringparams["tinunit"] = "";
  stringparams["vinunit"] = "";
  stringparams["ainunit"] = "";
  stringparams["rhoinunit"] = "";
  stringparams["sigmainunit"] = "";
  stringparams["pressinunit"] = "";
  stringparams["finunit"] = "";
  stringparams["Einunit"] = "";
  stringparams["mominunit"] = "";
  stringparams["angmominunit"] = "";
  stringparams["angvelinunit"] = "";
  stringparams["dmdtinunit"] = "";
  stringparams["Linunit"] = "";
  stringparams["kappainunit"] = "";
  stringparams["Binunit"] = "";
  stringparams["Qinunit"] = "";
  stringparams["Jcurinunit"] = "";
  stringparams["uinunit"] = "";
  stringparams["dudtinunit"] = "";
  stringparams["tempinunit"] = "";
  stringparams["routunit"] = "pc";
  stringparams["moutunit"] = "m_sun";
  stringparams["toutunit"] = "myr";
  stringparams["voutunit"] = "km_s";
  stringparams["aoutunit"] = "km_s2";
  stringparams["rhooutunit"] = "g_cm3";
  stringparams["sigmaoutunit"] = "m_sun_pc2";
  stringparams["pressoutunit"] = "Pa";
  stringparams["foutunit"] = "N";
  stringparams["Eoutunit"] = "J";
  stringparams["momoutunit"] = "m_sunkm_s";
  stringparams["angmomoutunit"] =
"m_sunkm2_s";
  stringparams["angveloutunit"] = "rad_s";
  stringparams["dmdtoutunit"] = "m_sun_yr";
  stringparams["Loutunit"] = "L_sun";
  stringparams["kappaoutunit"] = "m2_kg";
  stringparams["Boutunit"] = "tesla";
  stringparams["Qoutunit"] = "C";
  stringparams["Jcuroutunit"] = "C_s_m2";
  stringparams["uoutunit"] = "J_kg";
  stringparams["dudtoutunit"] = "J_kg_s";
  stringparams["tempoutunit"] = "K";

  // Integration scheme and timestep parameters
  //-------------------------------------------------------
  floatparams["accel_mult"] = 0.3;
  floatparams["courant_mult"] = 0.15;
  floatparams["nbody_mult"] = 0.1;
  floatparams["subsys_mult"] = 0.05;
  floatparams["visc_mult"] = 0.3 ;
  intparams["Nlevels"] = 1;
  intparams["level_diff_max"] = 1;
  intparams["sph_single_timestep"] = 0;
  intparams["nbody_single_timestep"] = 0;

  // SPH parameters
  //-------------------------------------------------------
  stringparams["sph_integration"] = "lfkdk";
  stringparams["kernel"] = "m4";
  intparams["conservative_sph_star_gravity"] = 1;
  intparams["tabulated_kernel"] = 1;
  floatparams["h_fac"] = 1.2;
  floatparams["h_converge"] = 0.01;

  // Thermal physics parameters
  //-------------------------------------------------------
  intparams["hydro_forces"] = 1;
  stringparams["gas_eos"] = "energy_eqn";
  stringparams["energy_integration"] = "null";
  floatparams["energy_mult"] = 0.4;
  floatparams["gamma_eos"] = 1.6666666666666;
  floatparams["temp0"] = 1.0;
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floatparams["mu_bar"] = 1.0;
floatparams["tempmin"] = 0.01;
floatparams["templaw"] = 0.75;
floatparams["rho_bary"] = 1.0e-14;
floatparams["eta_eos"] = 1.4;
floatparams["Kpoly"] = 1.0;
stringparams["radws_table"] = "eos.bell.cc.dat";
intparams["lombardi_method"] = 0;
floatparams["temp_ambient"] = 5.0;

// Artificial viscosity parameters
//------------------------------------------------------------
stringparams["avisc"] = "mon97";
stringparams["acond"] = "none";
stringparams["time_dependent_avisc"] = "none";
floatparams["alpha_visc"] = 1.0;
floatparams["alpha_visc_min"] = 0.1;
floatparams["beta_visc"] = 2.0;

// Meshless Finite-Volume parameters
//------------------------------------------------------------
stringparams["riemann_solver"] = "hllc";
stringparams["slope_limiter"] = "gizmo";
intparams["zero_mass_flux"] = 1;
intparams["static_particles"] = 0;
stringparams["time_step_limiter"] = "none";
floatparams["shear_visc"] = 0;
floatparams["bulk_visc"] = 0;

// Gravity parameters
//------------------------------------------------------------
intparams["self_gravity"] = 0;
intparams["kgrav"] = 1;
stringparams["grav_kernel"] = "mean_h";
stringparams["external_potential"] = "none";
floatparams["avert"] = -0.5;
floatparams["rplummer_extpot"] = 1.0;
floatparams["mplummer_extpot"] = 1.0;

// Neighbour searching and tree-gravity params
//------------------------------------------------------------
stringparams["neib_search"] = "kdtree";
stringparams["gravity_mac"] = "geometric";
stringparams["multipole"] = "quadrupole";
intparams["Nleafmax"] = 6;
intparams["ntreebuildstep"] = 1;
intparams["ntreestockstep"] = 1;
floatparams["thetamaxsqd"] = 0.1;
floatparams["macerror"] = 0.0001;

// N-body parameters
//------------------------------------------------------------
intparams["sub_systems"] = 0;
stringparams["sub_system_integration"] =
"hermite4";
intparams["Npec"] = 1;
intparams["nbody_softening"] = 1;
intparams["perturbers"] = 0;
intparams["binary_stats"] = 0;
intparams["nsystembuildstep"] = 1;
floatparams["gpefrac"] = 5.0e-2;
floatparams["gpesoft"] = 2.0e-2;
floatparams["gpehard"] = 1.0e-3;

// Sink particle parameters
//------------------------------------------------------------
intparams["sink_particles"] = 0;
intparams["create_sinks"] = 0;
intparams["smooth_accretion"] = 0;
intparams["fixed_sink_mass"] = 0;
intparams["extra_sink_output"] = 0;
intparams["Nsinkfixed"] = -1;
floatparams["rho_sink"] = 1.e-12;
floatparams["alpha_ss"] = 0.01;
floatparams["sink_radius"] = 2.0;
floatparams["smooth_accrete_frac"] = 0.01;
floatparams["smooth_accrete_dt"] = 0.01;
stringparams["sink_radius_mode"] = "hmult";

// Radiation algortihm parameters
//------------------------------------------------------------
stringparams["radiation"] = "none";
intparams["Nraditerations"] = 2;
intparams["Nradlevels"] = 1;
intparams["nradstep"] = 1;
floatparams["Nphotonratio"] = 8;
floatparams["mu_ion"] = 0.678;
floatparams["temp_ion"] = 1e4;
floatparams["arecomb"] = 2.7e-13;
floatparams["Ndotmin"] = 1e47;
floatparams["NLyC"] = 1e47;

// TreeRay algorithm parameters
//------------------------------------------------------------
intparams["on_the_spot"] = 0;
intparams["nside"] = 4;
intparams["ilNR"] = 50;
intparams["ilNTheta"] = 25;
intparams["ilNPhi"] = 50;
intparams["ilNNS"] = 20;
intparams["ilFinePix"] = 4;
floatparams["maxDist"] = 1.0e99;
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floatparams["rayRadRes"] = 1.0;
floatparams["relErr"] = 0.01;
stringparams["errControl"] = "erad_tot";

// Boundary conditions parameters
//------------------------------------------------------
stringparams["boundary_lhs[0]"] = "open";
stringparams["boundary_rhs[0]"] = "open";
stringparams["boundary_lhs[1]"] = "open";
stringparams["boundary_rhs[1]"] = "open";
stringparams["boundary_lhs[2]"] = "open";
stringparams["boundary_rhs[2]"] = "open";
floatparams["boxmin[0]"] = -9.9e30;
floatparams["boxmin[1]"] = -9.9e30;
floatparams["boxmin[2]"] = -9.9e30;
floatparams["boxmax[0]"] = 9.9e30;
floatparams["boxmax[1]"] = 9.9e30;
floatparams["boxmax[2]"] = 9.9e30;
intparams["cut_box"] = 0;

// Ewald periodic gravity parameters
//------------------------------------------------------
intparams["ewald"] = 1;
intparams["gr_bhewaldseriesn"] = 10;
intparams["in"] = 500;
intparams["nEwaldGrid"] = 16;
floatparams["ewald_mult"] = 1.0;
floatparams["ixmin"] = 1.0e-8;
floatparams["ixmax"] = 5.0;
floatparams["EFratio"] = 1.0;

// Initial conditions parameters
//------------------------------------------------------
stringparams["particle_distribution"] =
"cubic_lattice";
intparams["use_fixed_spacing"] = 0 ;
intparams["smooth_ic"] = 0;
intparams["com_frame"] = 0;
intparams["Nreg"] = 1;
intparams["field_type"] = 1;
intparams["gridsize"] = 64;
intparams["Nhydro"] = 0;
intparams["Ndust"] = 0;
intparams["Nhydromax"] = -1;
intparams["Nstar"] = 0;
intparams["Nstarmax"] = -1;
intparams["Nlattice1[0]"] = 1;
intparams["Nlattice1[1]"] = 1;
intparams["Nlattice1[2]"] = 1;
intparams["Nlattice2[0]"] = 1;
intparams["Nlattice2[1]"] = 1;
intparams["Nlattice2[2]"] = 1;
floatparams["vfluid1[0]"] = 0.0;
floatparams["vfluid1[1]"] = 0.0;
floatparams["vfluid1[2]"] = 0.0;
floatparams["vfluid2[0]"] = 0.0;
floatparams["vfluid2[1]"] = 0.0;
floatparams["vfluid2[2]"] = 0.0;
floatparams["rhofluid1"] = 1.0;
floatparams["rhofluid2"] = 1.0;
floatparams["press1"] = 1.0;
floatparams["press2"] = 1.0;
floatparams["rexplosion"] = 0.2;
floatparams["amp"] = 0.1;
floatparams["lambda"] = 0.5;
floatparams["kefrac"] = 0.0;
floatparams["radius"] = 1.0;
floatparams["angvel"] = 0.0;
floatparams["mcloud"] = 1.0;
floatparams["mplummer"] = 1.0;
floatparams["rplummer"] = 1.0;
floatparams["rstar"] = 0.1;
floatparams["cdmfrac"] = 0.0;
floatparams["gasfrac"] = 0.0;
floatparams["starfrac"] = 1.0;
floatparams["m1"] = 0.5;
floatparams["m2"] = 0.5;
floatparams["m3"] = 0.5;
floatparams["m4"] = 0.5;
floatparams["abin"] = 1.0;
floatparams["abin2"] = 0.1;
floatparams["ebin"] = 0.0;
floatparams["ebin2"] = 0.0;
floatparams["phirot"] = 0.0;
floatparams["thetarot"] = 0.0;
floatparams["psirot"] = 0.0;
floatparams["vmachbin"] = 1.0;
floatparams["alpha_turb"] = 0.1;
floatparams["power_turb"] = -4.0;
floatparams["asound"] = 1.0;
floatparams["zmax"] = 1.0;
floatparams["thermal_energy"] = 1.0;
floatparams["mach"] = 2.7;
floatparams["DiscIcStarMass"] = 1.0;
floatparams["DiscIcMass"] = 0.01;
floatparams["DiscIcP"] = 1.0;
floatparams["DiscIcQ"] = 0.5;
floatparams["DiscIcRin"] = 0.4;
floatparams["DiscIcRout"] = 2.5;
floatparams["DiscIcHr"] = 0.05;
intparams["DiscIcPlanet"] = 1;
floatparams["DiscIcPlanetRadius"] = 1;
floatparams["DiscIcPlanetMass"] = 1e-3;
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 floatparams["DiscIcPlanetAccretionRadiusHill"]
= 0.4;
 floatparams["DiscIcPlanetEccen"]=0.;
 floatparams["DiscIcPlanetIncl"]=0.;
 floatparams["DustGasRatio"]=0.01;

 // Regularising initial conditions parameters
 //-------------------------------------------------------
 intparams["regularise_particle_ics"] = 0;
 intparams["regularise_smooth_density"] = 1;
 floatparams["alpha_reg"] = 0.1;
 floatparams["rho_reg"] = 0.8;

 // SILCC initial conditions parameters
 //-------------------------------------------------------
 floatparams["a_midplane"] = 1.0;
 floatparams["h_midplane"] = 1.0;
 floatparams["rho_midplane"] = 1.0;
 floatparams["rho_star"] = 1.0;
 floatparams["sigma_star"] = 30.0;
 floatparams["z_d"] = 100.0;

 // Filament ICs
 //-------------------------------------------------------
 floatparams["n0"] = 7.1e4;
 floatparams["r0"] = 0.027;
 floatparams["Rfilament"] = 0.075;
 floatparams["Lfilament"] = 1.6;
 floatparams["v_cyl_infall"] = 0.0;
 floatparams["v_rad_infall"] = 0.0;

 // Random number generator parameters
 //-------------------------------------------------------
 stringparams["rand_algorithm"] = "xorshift";
 intparams["randseed"] = 1;

 // MPI parameters
 //-------------------------------------------------------
 stringparams["mpi_decomposition"] = "kdtree";
 intparams["pruning_level_min"] = 6;
 intparams["pruning_level_max"] = 6;

 // Python parameters
 //-------------------------------------------------------
 floatparams["dt_python"] = 8.0;

 // Dust parameters
 //-------------------------------------------------------
 stringparams["dust_forces"] = "none" ;
 stringparams["drag_law"] = "none" ;
 floatparams["drag_coeff"] = 0 ;
 floatparams["dust_mass_factor"] = 1 ;

 // Supernova feedback parameters
 //-------------------------------------------------------
 stringparams["supernova_feedback"] = "none";

 // Radiative feedback parameters
 //-------------------------------------------------------
 intparams["rad_fb"] = 0;
 intparams["ambient_heating"] = 0;
 intparams["disc_heating"] = 0;
 intparams["sink_heating"] = 0;
 stringparams["sink_fb"] = "continuous";
 floatparams["r_smooth"] = 0.01;
 floatparams["temp_q"] = 0.75;
 floatparams["temp_q_secondary"] = 0.75;
 floatparams["temp_au"] = 250;
 floatparams["temp_au_secondary"] = 250;
 floatparams["f_acc"] = 0.75;
 floatparams["r_star"] = 3.0;
 floatparams["r_bdwarf"] = 0.2;
 floatparams["r_planet"] = 0.075;
```