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# Schedule definitions for thorn MultiPatchWaveToy
# $Header: /numrelcvs/AEIDevelopment/MultiPatchWaveToy/schedule.ccl,v 1.14 2004/
12/08 21:20:47 schnetter Exp $

# Evolved variables
STORAGE: scalar[3] density[3] velocity[3]

# Background metric
STORAGE: metric inverse_metric lapse shift volume_element

# Startup

SCHEDULE MPWT_startup AT startup
{
  LANG: C
  OPTIONS: meta
} "Register banner with Cactus"

SCHEDULE MPWT_register_MoL IN MoL_Register
{
  LANG: C
  OPTIONS: meta
} "Register variables with MoL"

# Set up initial data

SCHEDULE MPWT_init_metric AT initial
{
  LANG: C
} "Initialise the metric"

SCHEDULE MPWT_transform_metric AT initial AFTER MPWT_init_metric
{
  LANG: Fortran
} "Transform the metric"

SCHEDULE MPWT_init AT initial
{
  LANG: C
} "Initialise the system"

SCHEDULE MPWT_transform AT initial AFTER MPWT_init AFTER MPWT_transform_metric
{
  LANG: Fortran
} "Transform the system"

SCHEDULE MPWT_init2 AT initial AFTER MPWT_transform
{
  LANG: C
} "Initialise the system, part 2"

# Calculate the RHS

SCHEDULE GROUP MPWT_RHS IN MoL_CalcRHS
{
  STORAGE: densitydot velocitydot

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} "Calculate the RHS of the evolution equations"

SCHEDULE MPWT_calc_rhs IN MPWT_RHS
{
  LANG: Fortran
  SYNC: scalardot densitydot velocitydot
  STORAGE: velocity_upper
} "Calculate the RHS"

SCHEDULE MPWT_rhs_boundaries IN MPWT_RHS AFTER MPWT_calc_rhs
{
  LANG: Fortran
  OPTIONS: level
} "Select the RHS boundary conditions"

SCHEDULE GROUP ApplyBCs AS MPWT_ApplyBCs_rhs IN MPWT_RHS AFTER MPWT_rhs_boundari
es
{
} "Apply the RHS boundary conditions"

# Apply the boundary conditions

SCHEDULE MPWT_boundaries IN MoL_PostStep
{
  LANG: Fortran
  SYNC: density velocity
  OPTIONS: level
} "Select the boundary condition"

SCHEDULE GROUP ApplyBCs AS MPWT_ApplyBCs IN MoL_PostStep AFTER MPWT_boundaries
{
} "Apply the boundary conditions"

# Calculate the constraints

SCHEDULE GROUP MPWT_constraints AT analysis
{
  STORAGE: constraints difference_v velocity_squared
  TRIGGERS: constraints difference_v velocity_squared
} "Calculate the constraints"

SCHEDULE MPWT_calc_constraints IN MPWT_constraints
{
  LANG: Fortran
} "Calculate the constraints"

SCHEDULE MPWT_constraint_boundaries IN MPWT_constraints AFTER MPWT_calc_constrai
nts
{
  LANG: Fortran
  SYNC: constraints difference_v velocity_squared
  OPTIONS: level
} "Select the constraint boundary conditions"

SCHEDULE GROUP ApplyBCs AS MPWT_ApplyBCs_constraints IN MPWT_constraints AFTER M
PWT_constraint_boundaries
{
} "Apply the constraint boundary conditions"

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# Calculate other analysis quantities
SCHEDULE GROUP MPWT_RHS AT analysis
{
  STORAGE: scalardot densitydot velocitydot
  TRIGGERS: scalardot densitydot velocitydot
} "Calculate the RHS of the evolution equations"

SCHEDULE MPWT_CalcEnergy AT analysis
{
  LANG: Fortran
  SYNC: scalarenergy
  STORAGE: scalarenergy
  TRIGGERS: scalarenergy
} "Calculate the energy of the scalar field"

SCHEDULE MPWT_min_spacing AT analysis
{
  LANG: Fortran
  SYNC: min_spacing
  STORAGE: min_spacing
  TRIGGERS: min_spacing
} "Calculate the smallest grid spacing"
```