StarParticleInitialize

if first timestep after restart

grid::FindAllStarParticles

Converts ALL active star particles into objects

StarParticleFindAll

Update position and velocity of existing star objects.
Converts NEW star particles into star objects.
Creates a global list of star objects on all processors.

StarParticleMergeNew

Merges NEW particles within some radius and the same type.
Delete merged particles.

Star::SetFeedbackFlag

Synchronize stars in global list with copies in grid.

Stop

EvolveLevel

Main grid loop in EvolveLevel

CommunicationUpdateStarParticleCount

Star::UpdatePositionVelocity

Copies new position and velocity from star particles to objects

StarParticleAddFeedback

Loop over all stars

if grid feedback necessary

Star::CalculateFeedbackParameters

Calculates radius, density, color, and energy of the feedback sphere.

Star::FindFeedbackSphere

Determines whether the sphere is enclosed in grids on the current level.

if sphere contained

grid::AddFeedbackSphere

Adds feedback sphere to grid.

yes

no

next star

if supernova, set FeedbackFlag to DEATH

StarParticleAccretion

(for every star)

Calculate its mass accretion rate.
Add mass to star.

StarParticleDeath

Loop over all stars

if kill only star object (e.g. active to inactive star) delete only the star object.

if kill star delete the star particle AND object.

For each star

ActivateNewStar

If star is now 'active' (e.g. surpassed some mass threshold), activate it by setting the type to positive.

ResetAccretion

Synchronize star in global list with copy in grids.

Delete global star list.

StarParticleFinalize