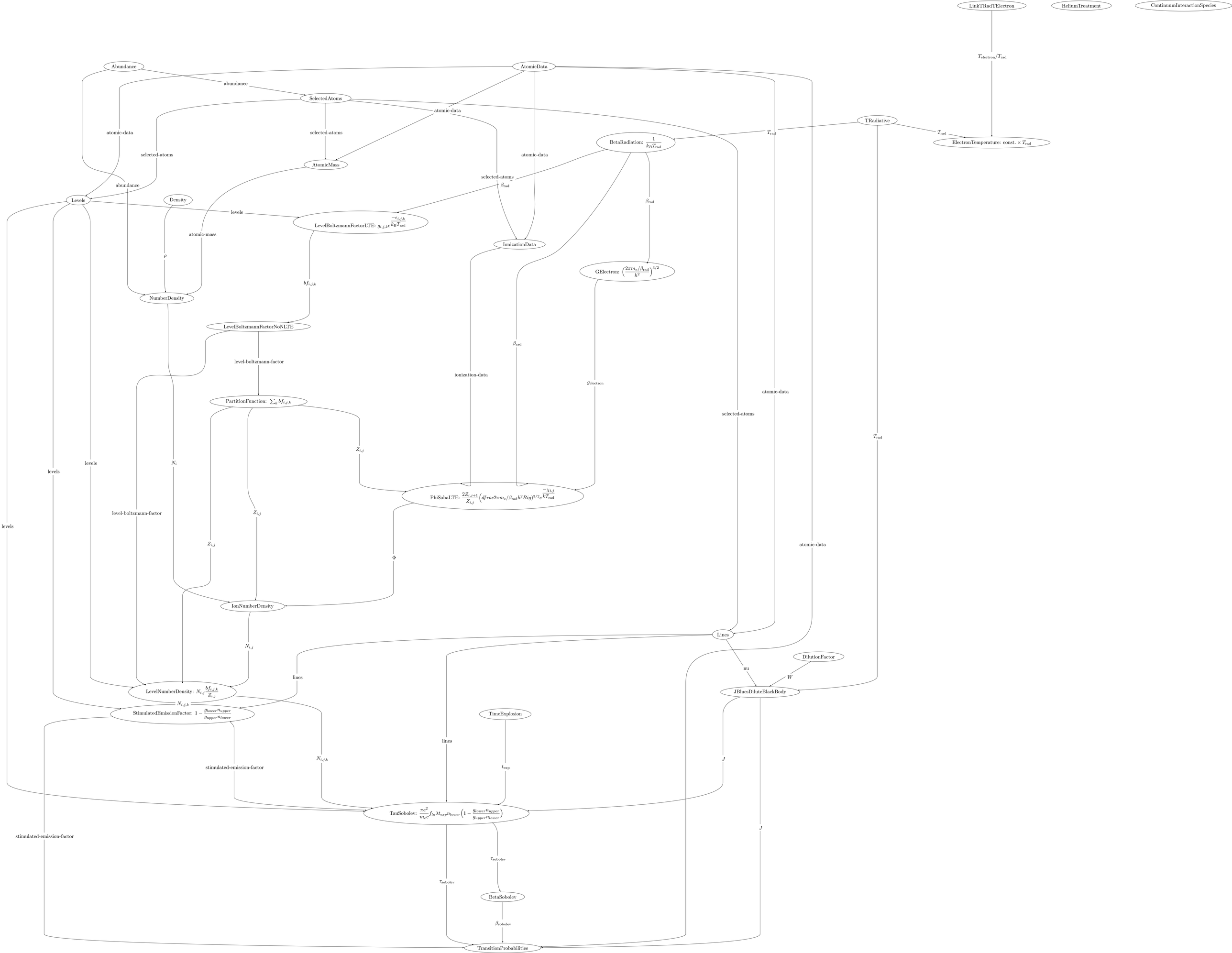
LinkTRadTElectron
HeliumTreatment
ContinuumInteractionSpecies
$T_{\rm electron}/T_{\rm rad}$
Abundance
AtomicData
abundance
SelectedAtoms
atomic-data
selected-atoms
TRadiative
$T_{\rm rad}$
$T_{\rm rad}$
ElectronTemperature: const. $\times T_{\rm rad}$
BetaRadiation: $\frac{1}{k_B T_{\rm rad}}$
selected-atoms
AtomicMass
atomic-data
selected-atoms
$\beta_{\rm rad}$
abundance
Levels
Density
levels
LevelBoltzmannFactorLTE: $g_{i,j,k} e^{\frac{-\epsilon_{i,j,k}}{k_B T_{\rm rad}}}$
atomic-mass
IonizationData
$\beta_{\rm rad}$
ρ
GElectron: $\left(\frac{2\pi m_e/\beta_{\rm rad}}{h^2}\right)^{3/2}$
$bf_{i,j,k}$
NumberDensity
LevelBoltzmannFactorNoNLTE
$\beta_{\rm rad}$
level-boltzmann-factor
ionization-data
$g_{\rm electron}$
atomic-data
PartitionFunction: $\sum_k bf_{i,j,k}$
selected-atoms
$T_{\rm rad}$
$Z_{i,j}$
levels
levels
N_i
PhiSahaLTE: $\frac{2Z_{i,j+1}}{Z_{i,j}} \left(dfrac2\pi m_e/\beta_{\rm rad} h^2 Big\right)^{3/2} e^{\frac{-\chi_{i,j}}{kT_{\rm rad}}}$
level-boltzmann-factor
$Z_{i,j}$
levels
$Z_{i,j}$
atomic-data
Φ
IonNumberDensity
Lines
$N_{i,j}$
DilutionFactor
nu
W
lines
LevelNumberDensity: $N_{i,j} \frac{bf_{i,j,k}}{Z_{i,j}}$
JBluesDiluteBlackBody
$N_{i,j,k} =$
StimulatedEmissionFactor: $1 - \frac{g_{\rm lower} n_{\rm upper}}{g_{\rm upper} n_{\rm lower}}$
TimeExplosion
lines
$N_{i,j,k}$
J
stimulated-emission-factor
$t_{\rm exp}$
TauSobolev: $\frac{\pi e^2}{m_e c} f_{\rm lu} \lambda t_{exp} n_{\rm lower} \left(1 - \frac{g_{\rm lower} n_{\rm upper}}{g_{\rm upper} n_{\rm lower}}\right)$
J
stimulated-emission-factor
$\tau_{\rm sobolev}$
$\tau_{\rm sobolev}$
BetaSobolev
$\beta_{\rm sobolev}$
TransitionProbabilities