

crystallite_integrateStress LpLoop

NiterationStress = NiterationStress + 1		
NiterationStress > nStress		
.true.	.false.	
TOO MANY ITERATIONS: return	∅	
$B = \text{math_i3} - \text{crystallite_subdt}(g,i,e) * Lp_{\text{guess}}$ $Tstar_v = 0,5 * C * (B^T * A * B - \text{math_i3})$ $p_hydro = \text{sum}(Tstar_v(1:3)) / 3,0$ forall (i=1:3) $Tstar_v(i) = Tstar_v(i) - p_hydro$		
[Lp_constitutive, dLp_constitutive] = constitutive_LpAndItsTangent (Tstar_v, crystallite_Temperature)		
residuum = Lpguess - Lp_constitutive		
no NaN occurred in residuum .and. (residuum below absolute tolerance .or. (above relevant strain .and. residuum below relative tolerance))		
.true.	.false.	
LOOP CONVERGED: exit LpLoop	∅	
NaN occurred in residuum .and. leapfrog = 1.0		
.true.	.false.	
NO CONVERGENCE: return	leapfrog > 1.0 .and. (worse residuum .or. residuum changed sign .or. NaN occurred)	
	.true.	
	.false.	
	maxleap = 0,5 * leapfrog leapfrog = 1,0 Lpguess = Lpguess_old residuum = residuum_old	
	dTdLp = - 0,5 * crystallite_subdt * C * (A*B + B^T*A) dRdLp = math_identity2nd(9) - dLp_constitutive * dTdLp	
	[invdRdLp,dummy,error] = math_invert(9,dRdLp)	
	error	
	.true.	
	.false.	
	INVERSION FAILED: return	∅
residuum_old = residuum Lpguess_old = Lpguess		
NiterationStress > 1 .and. leapfrog < maxleap		
.true.		
.false.		
leapfrog = 2,0 * leapfrog	∅	
Lpguess = Lpguess - leapfrog * invdRdLp * residuum		