
Algorithm S 1: Algorithm for implementation

Input : The initial condition, time stepsize τ , the maximum time-steps N_T , step size for remeshing M .

Generate a triangular mesh over the domain.

for $n = 0 : N_T$ **do**

- Compute $L^{n+1}, H^{n+1}, r^{n+1}, L_{ox}^{n+1}, M^{n+1}, P^{n+1}, T^{n+1}, I_\gamma^{n+1}, S^{n+1}, I_{12}^{n+1}, G^{n+1}, Q^{n+1}, Q_r^{n+1}, \rho^{n+1}, F^{n+1}$ by solving equation (33);
- Compute the mean curvature of Γ_I^n, κ^n ;
- Compute σ^{n+1} by solving equation (34);
- Compute V_n in equation (25) and update Γ_I^{n+1} ;
- Remeshing every M steps.

end
