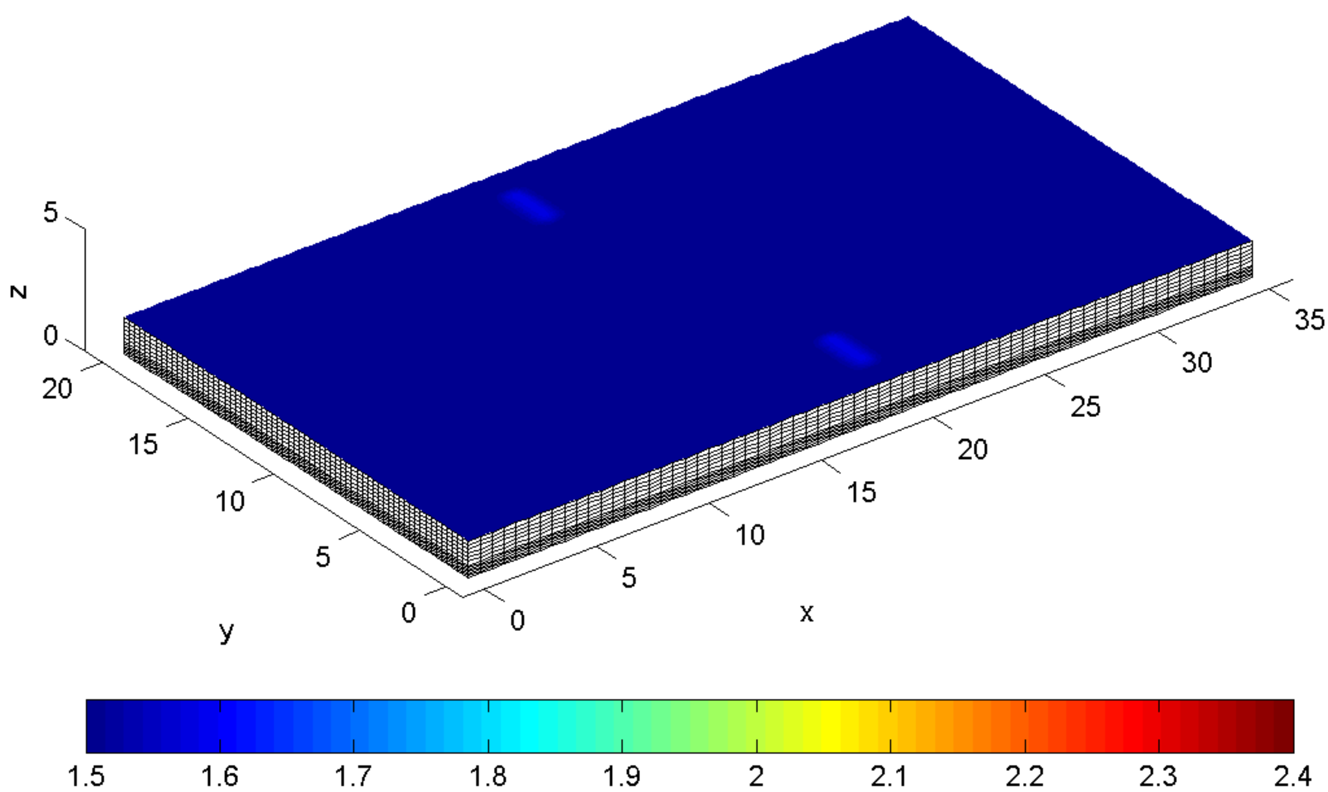
As an example, two animations of viscous detachment folding and matrix folding are presented here. In all simulations. the applied numerical resolution was 131 nodes in each of the horizontal directions and 25 nodes in the vertical direction. The total bulk shortening is 17.4 % and was subdivided into 44 increments.

Animation DR1: Numerical simulation of power-law viscous detachment folding corresponding to the results displayed in figure 1b (*oblique linkage*). The reference viscosity ratio between stiff layer and weak layer is 80, the power-law stress exponent of the stiff layer is 10 and of the weak layer 3. The stiff top layer is initially twice thicker than the underlying weak layer. All values for length are dimensionless and scaled by the initial thickness of the stiff layer. Shortening in the x-direction causes a constant bulk rate of shortening. The model width in the y-direction stays constant during shortening. All model boundaries are free slip boundaries, except the top boundary which is a free surface. The colours indicate the height of the surface and the colour scale is constant. Initially, two small line-shaped perturbations have a distance of about 2.7 in the x-direction. The wavelength (measured along the x-direction) of the low-amplitude folds that develop at the initial perturbations is about 5. Folds propagate in both the directions parallel and orthogonal to the fold axes. The two folds amplifying at the initial perturbations link in the middle of the model through a curved saddle. The simulation represents the fold linkage scenario *oblique-linkage*.



Animation DR2: Numerical simulation of linear viscous matrix folding. The reference viscosity ratio between stiff layer and weak layer is 50. The stiff top layer is initially ten times thinner than the underlying weak layer. All values for length are dimensionless and scaled by the initial thickness of the stiff layer. Shortening in the x-direction causes a constant bulk rate of shortening. The model width in the y-direction stays constant during shortening. All model boundaries are free slip boundaries, except the top boundary which is a free surface. The colours indicate the height of the surface and the colour scale varies for each time step to better image the initial low-amplitude folds. Initially, two small line-shaped perturbations have a distance of about 11.8 in the x-direction. The wavelength (measured along the x-direction) of the low-amplitude folds that develop from the initial perturbation is about 12. Folds propagate in both the directions parallel and orthogonal to the fold axes. The folds amplifying at the initial perturbations do not link in the middle of the model. The simulation represents the fold linkage scenario *oblique-no-linkage*.