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AUTHORS' CLOSURE

Using our exact kinematics of two superposed finite elastic–plastic deformations with their exact updating Dr Dashner, as reviewer of our paper, considers in his contribution the special case of stretch and strain increments superposed on a finite deformation. According to his note the stretch increments "are allowed to 'grow' only to a certain limit before defining a new base-state", where this *certain limit* is not defined. In contrast to the considerations of Dr Dashner, we introduce in our paper, furthermore, the Lagrangean logarithmic strain tensor, which is known to be the appropriate strain measure in finite elasto-plasticity. It is then shown that for superposed deformations comprising moderately large (not infinitesimally small) strains and finite rotations the Lagrangean logarithmic strain tensor can be additively decomposed into purely elastic and purely plastic contributions, where error estimations are given. This very general kinematical model is the point of departure to formulate elastic and plastic constitutive equations, evolution laws for isotropic and kinematic hardening, to derive equilibrium equations, boundary conditions and the principle of virtual work with associated consistent tangent stiffness matrix. By this we present all ingredients for an efficient solution algorithm to analyse structures undergoing finite elastic and finite plastic strains. The advantage of our concept using logarithmic strain measures to realize load steps comprising moderately large and not infinitesimally small strains is obvious.

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