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ISMIP-HOM results - December 2007.

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Experiment A

This is a 3D ice-sheet experiment (please see details in the 2006 ISMIP-HOM intercomparison exercice settings).
Firstly, we present velocity at surface, shear stress τ_{xz} and dp in the x direction for $y = 0.25$ for all domain lengths.
Secondly, we present the maximum/minimum over whole domain at each domain length for velocity in x direction (and the maximum amplitude of the velocity in the x direction), for shear stress τ_{xz} and dp. Those results are presented here together with the ExpC results for the same variables to enhance differences and similarities.

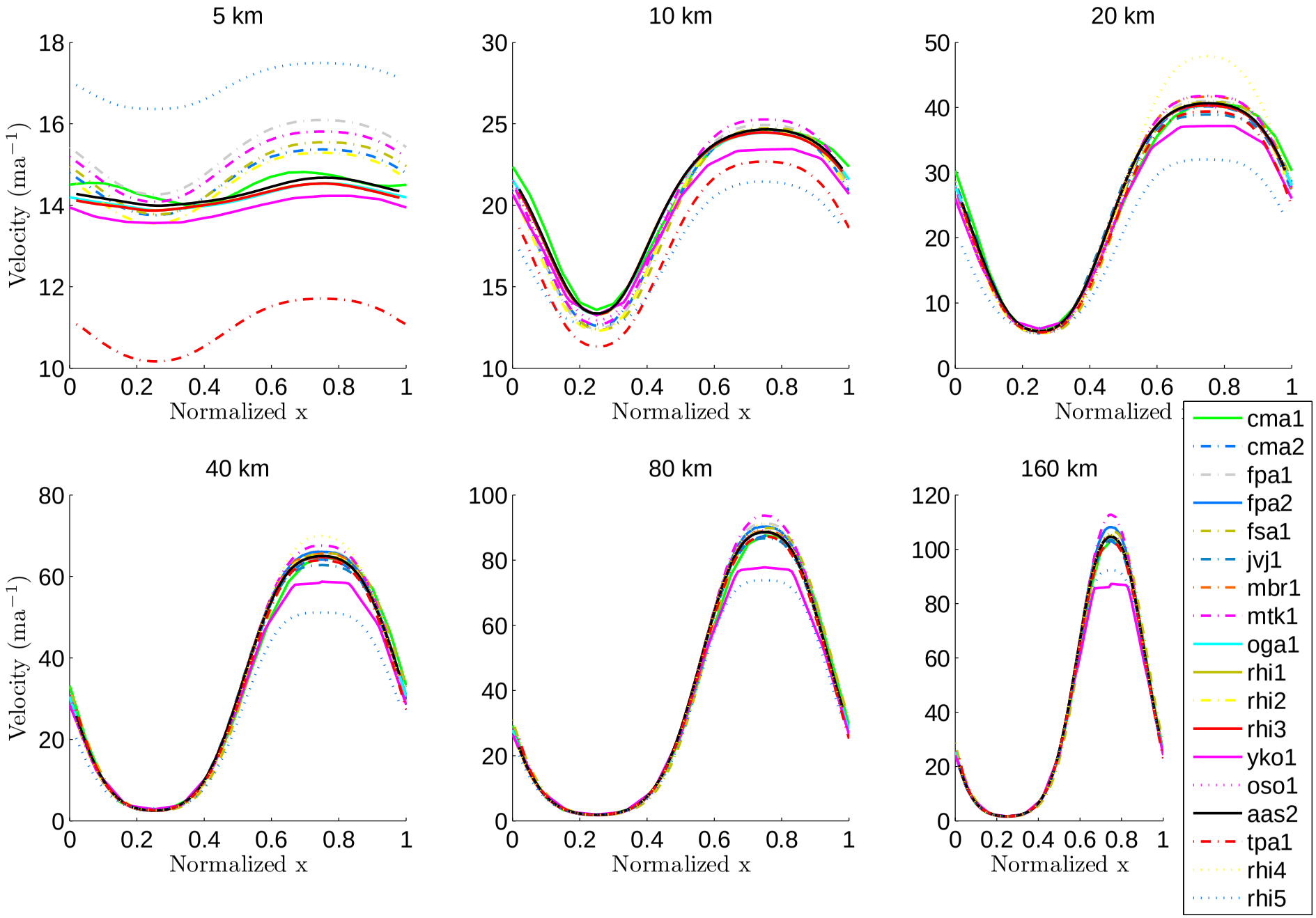

FIG. 1 – ExpA - Surface velocity in the x direction for each domain length.

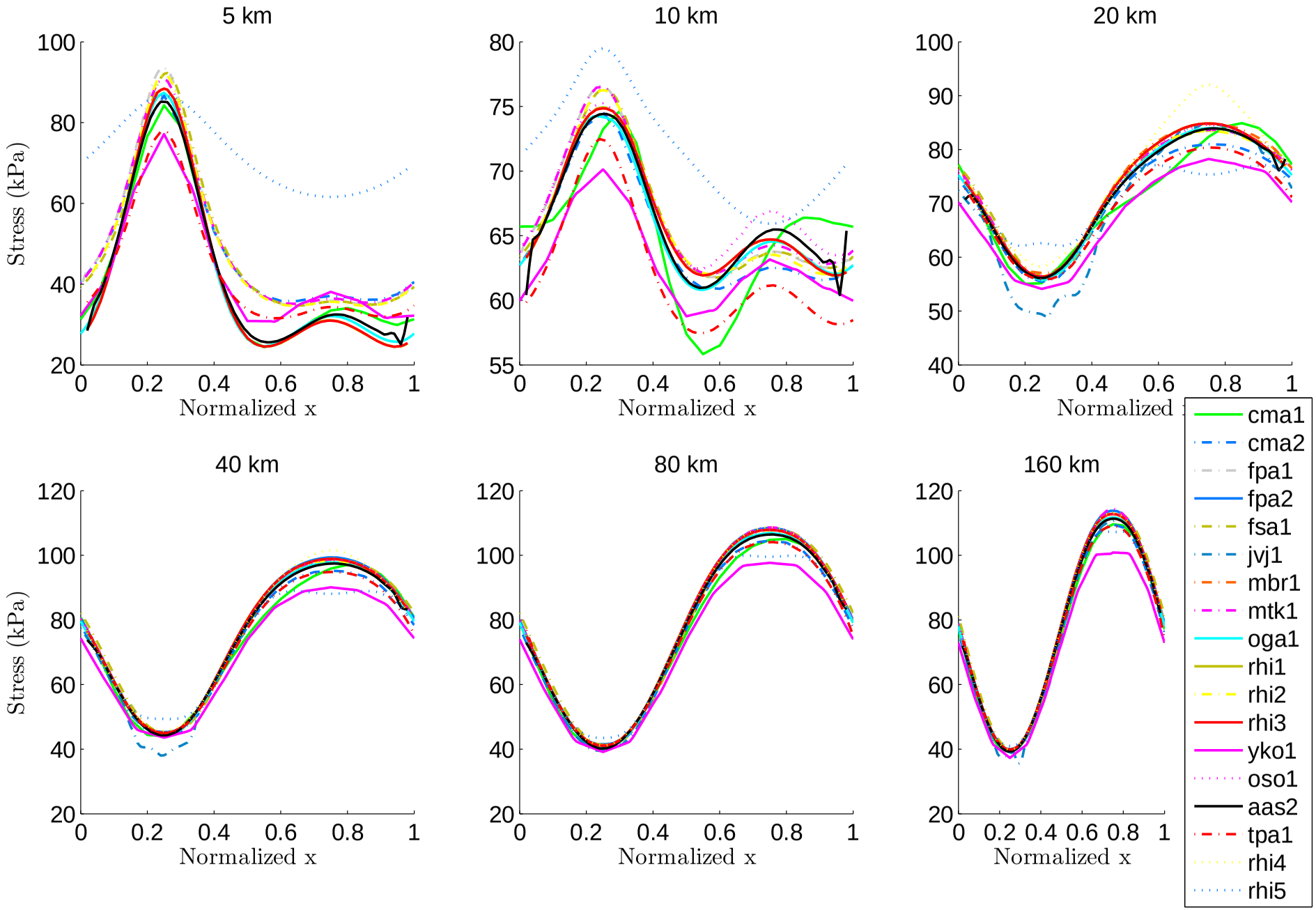

FIG. 2 – ExpA - Shear stress txz for each domain length.

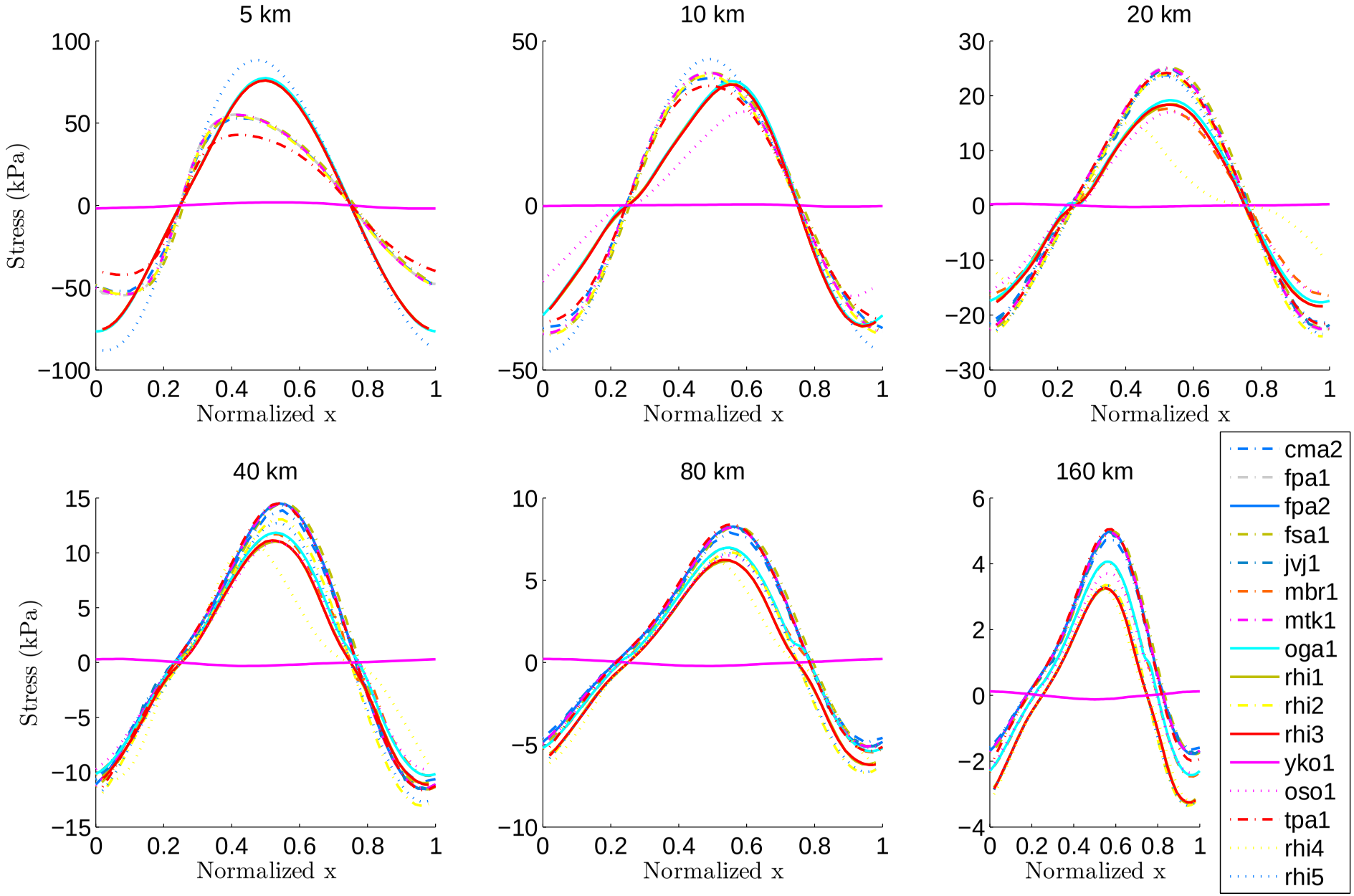

FIG. 3 – ExpA - Dp for each domain length.

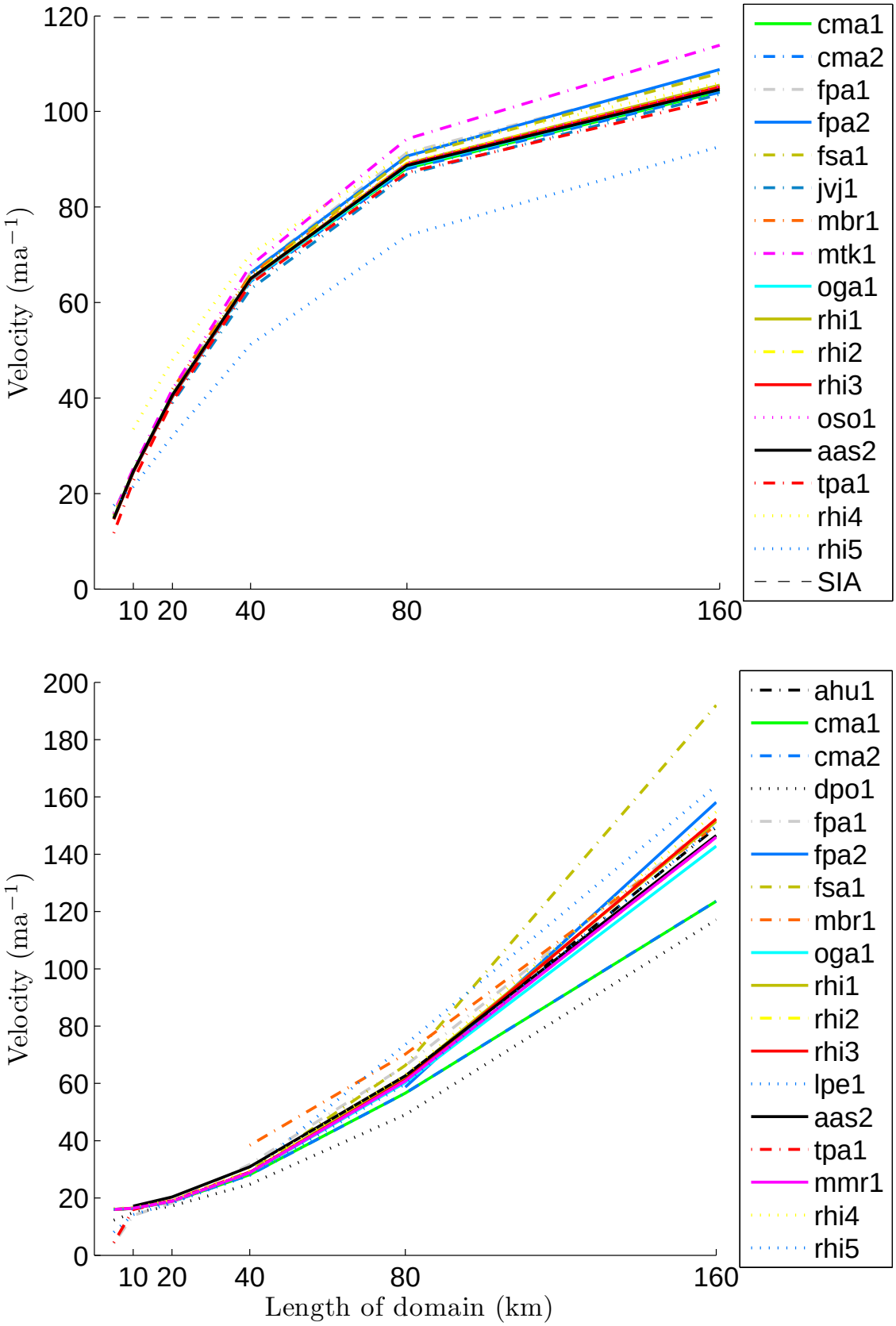

FIG. 4 – ExpAC - Maximum surface velocity value in x direction for each domain length.

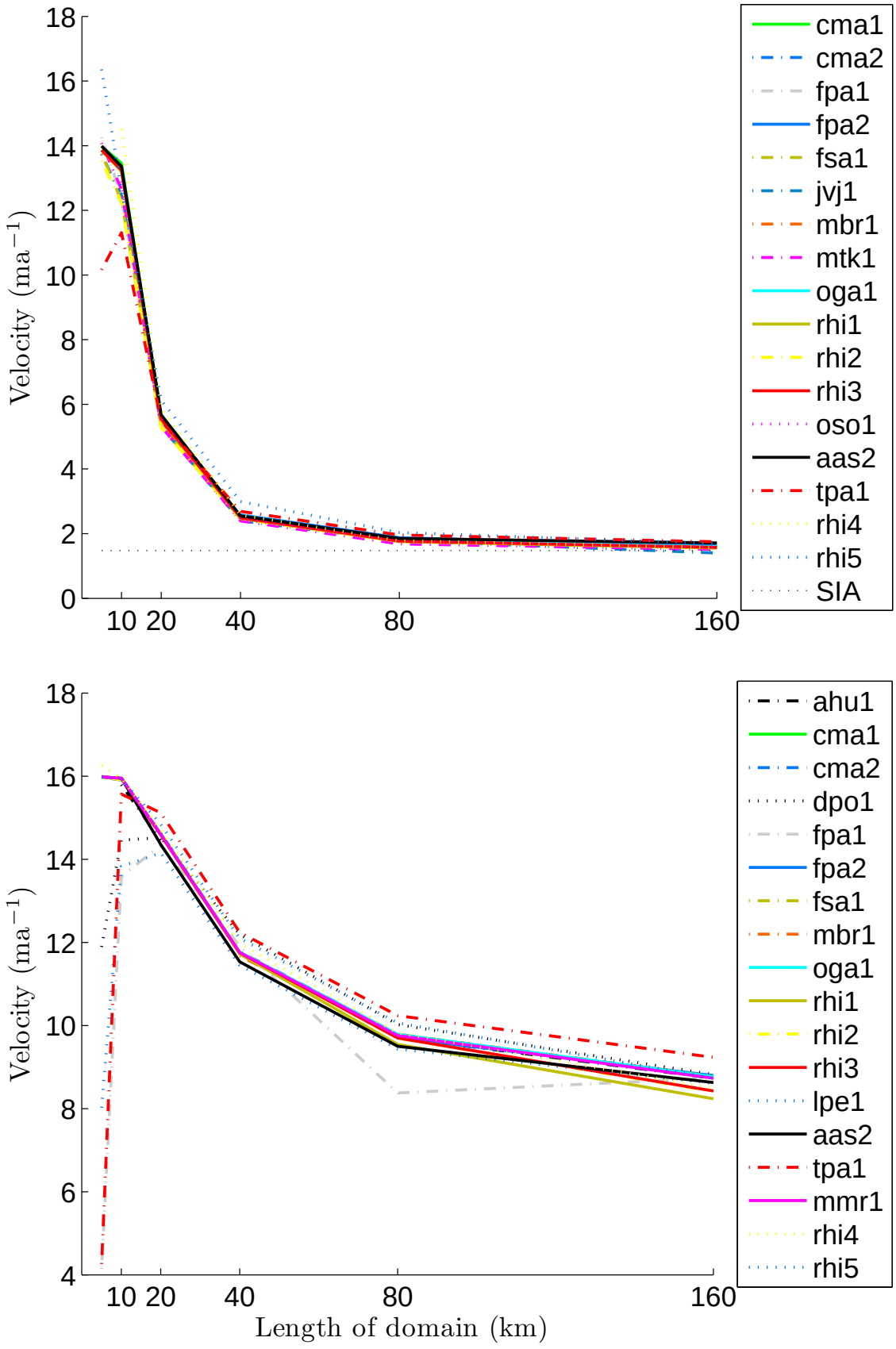

FIG. 5 – ExpAC - Minimum surface velocity value in x direction for each domain length.

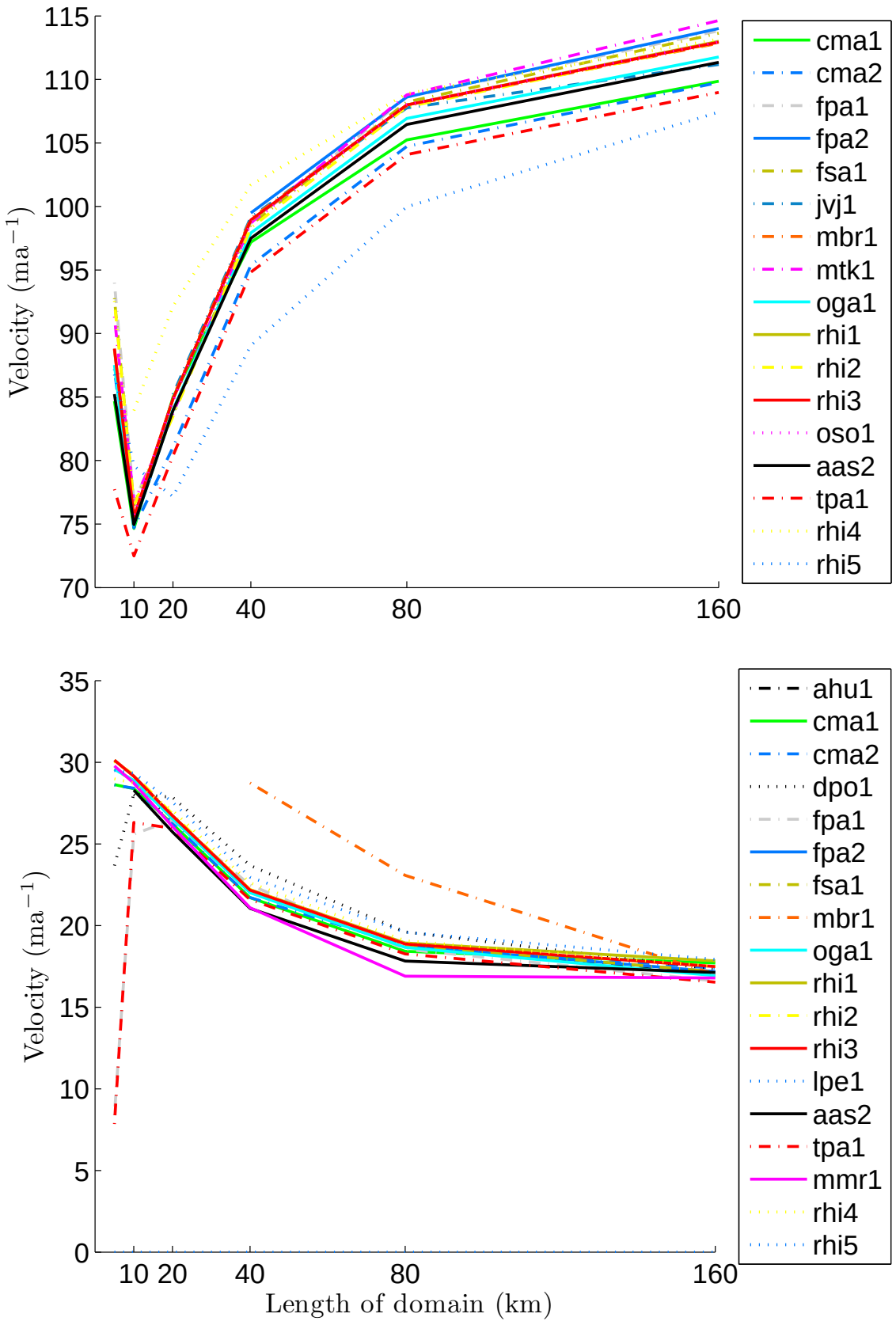

FIG. 6 – ExpAC - Maximum shear stress txz value for each domain length.

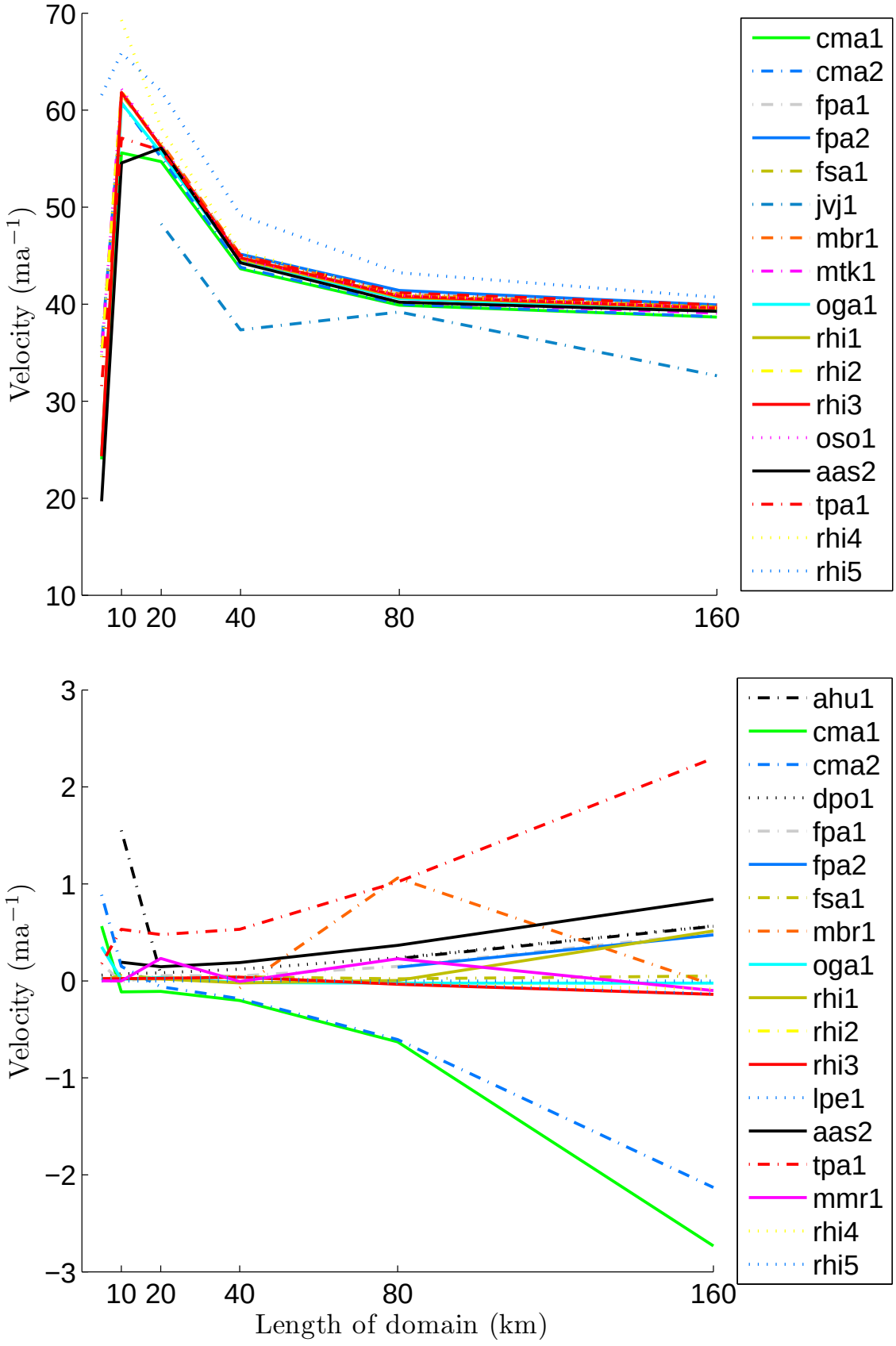

FIG. 7 – ExpAC - Minimum shear stress txz value for each domain length.

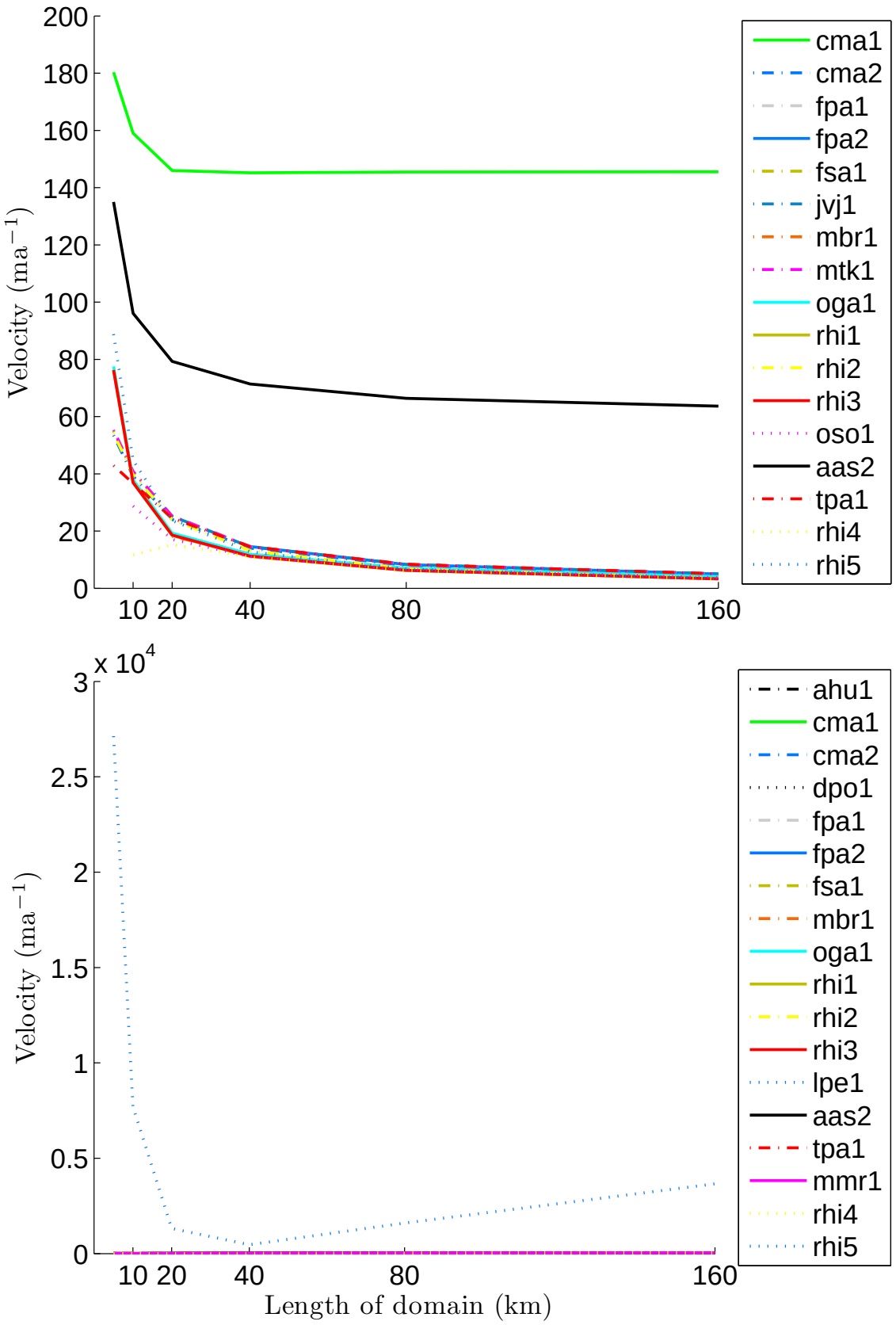

FIG. 8 – ExpAC - Maximum dp value

Experiment B

This is a 2D ice-sheet experiment (flowline). Please see details in the 2006 ISMIP-HOM intercomparison exercice settings.
Firstly, we present velocity at surface, shear stress τ_{xz} and dp in the x direction for $y = 0.25$ for domain lengths of 5 km and 10 km (lengthscales where significant differences and variations are observed).
Secondly, we present the maximum/minimum over whole domain at each domain length for velocity in x direction (and the maximum amplitude of the velocity in the x direction), for shear stress τ_{xz} and dp.

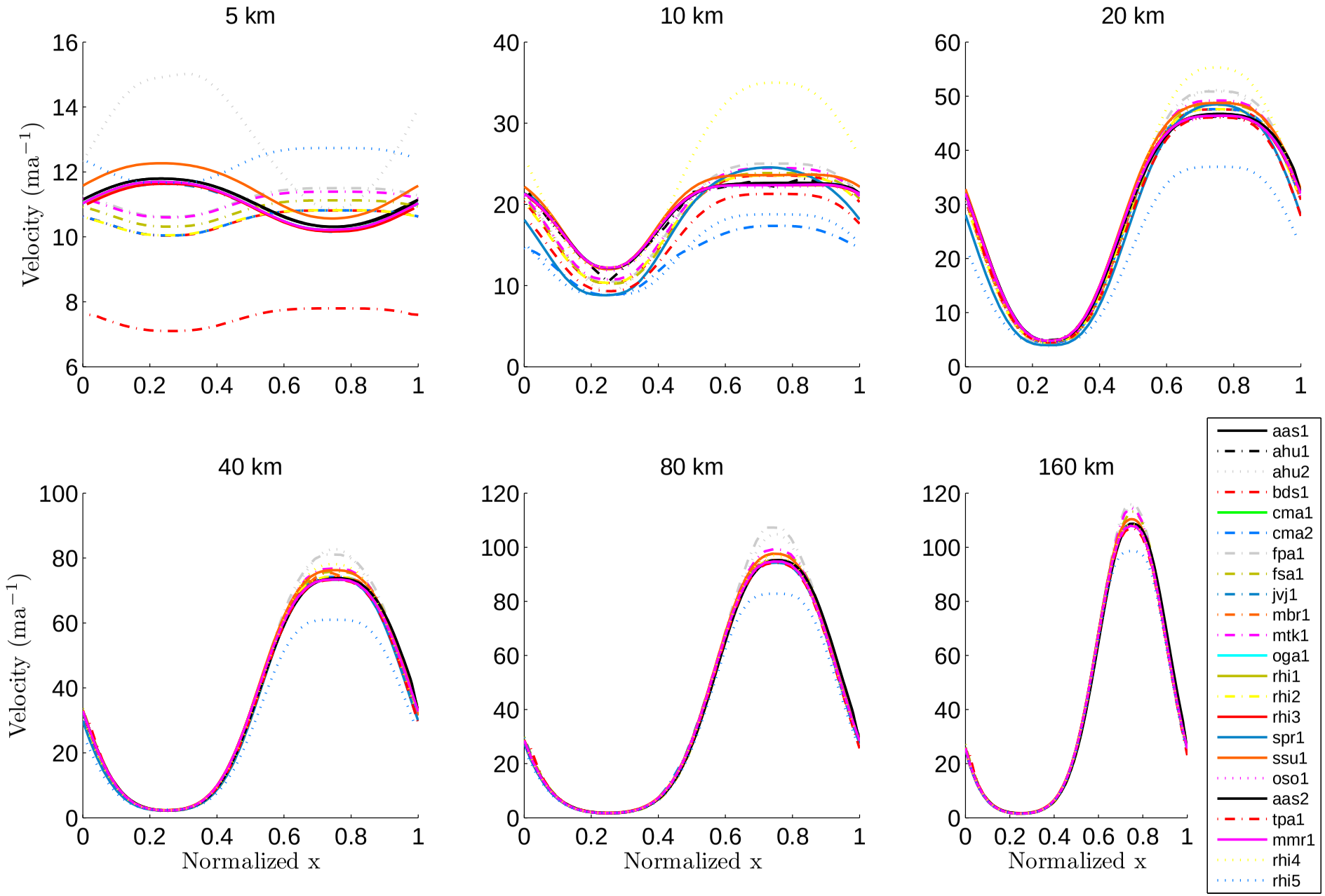

FIG. 9 – ExpB - Surface velocity in the x direction for each domain length.

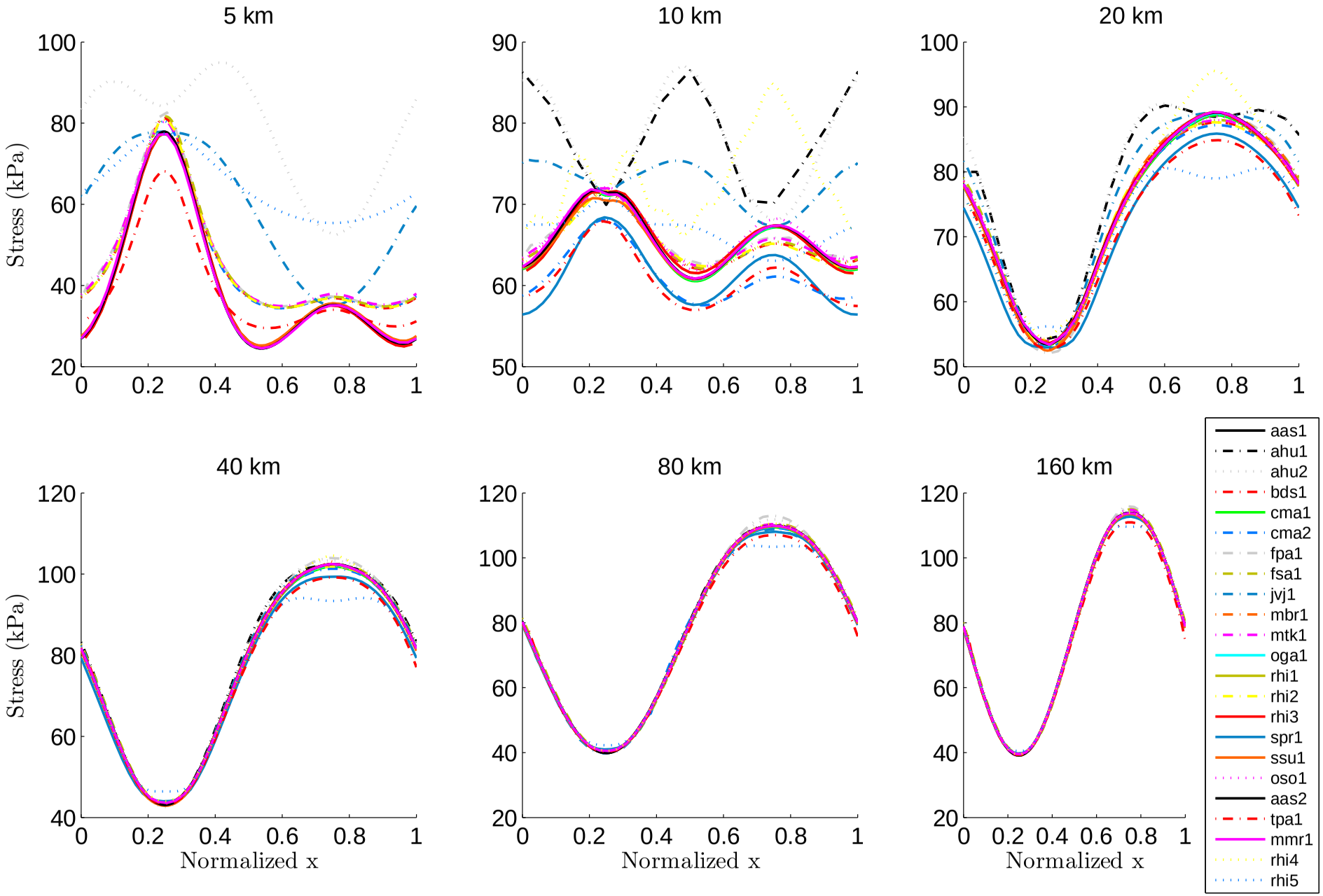

FIG. 10 – ExpB - Shear stress txz for each domain length.

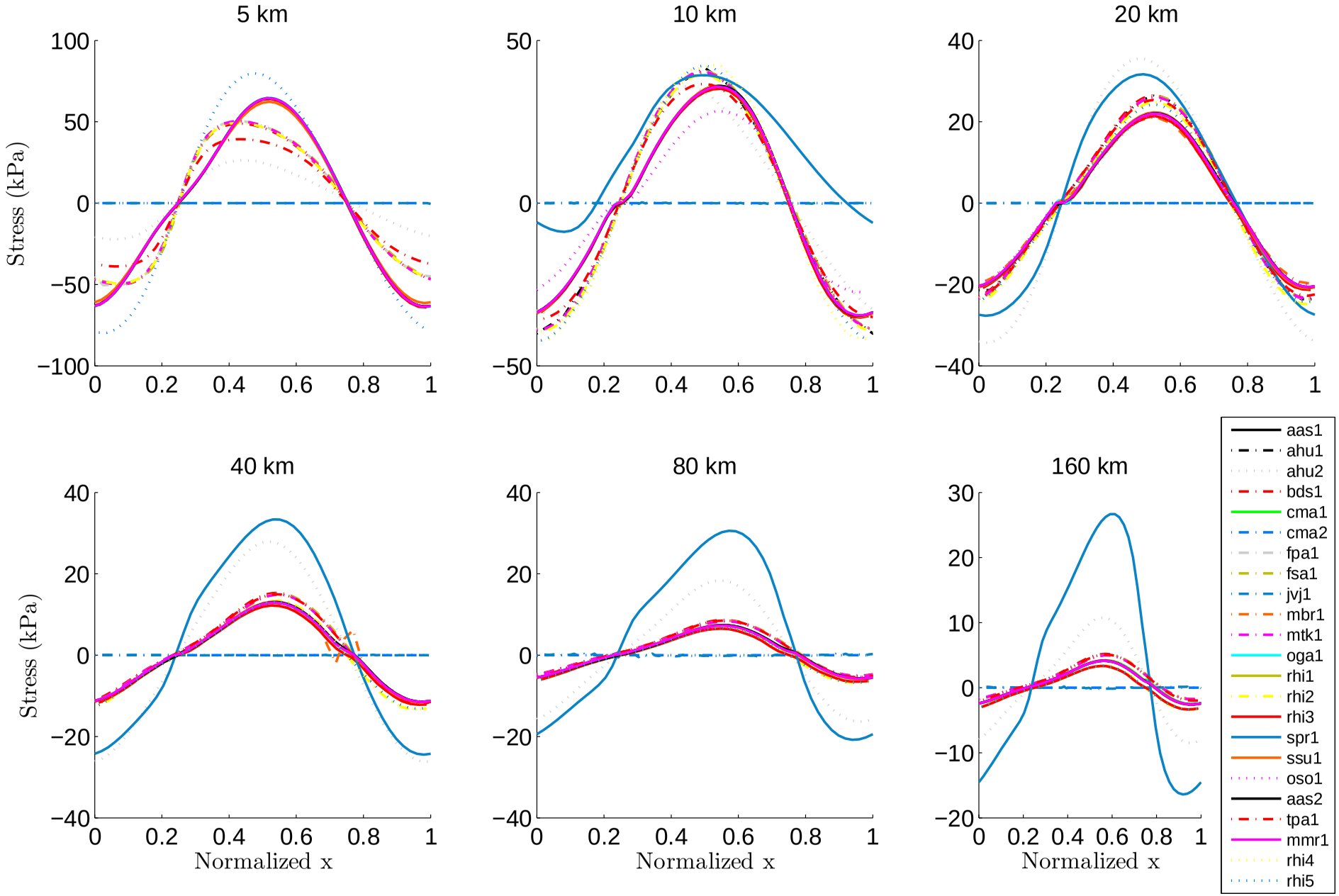

FIG. 11 – ExpB - Dp for each domain length.

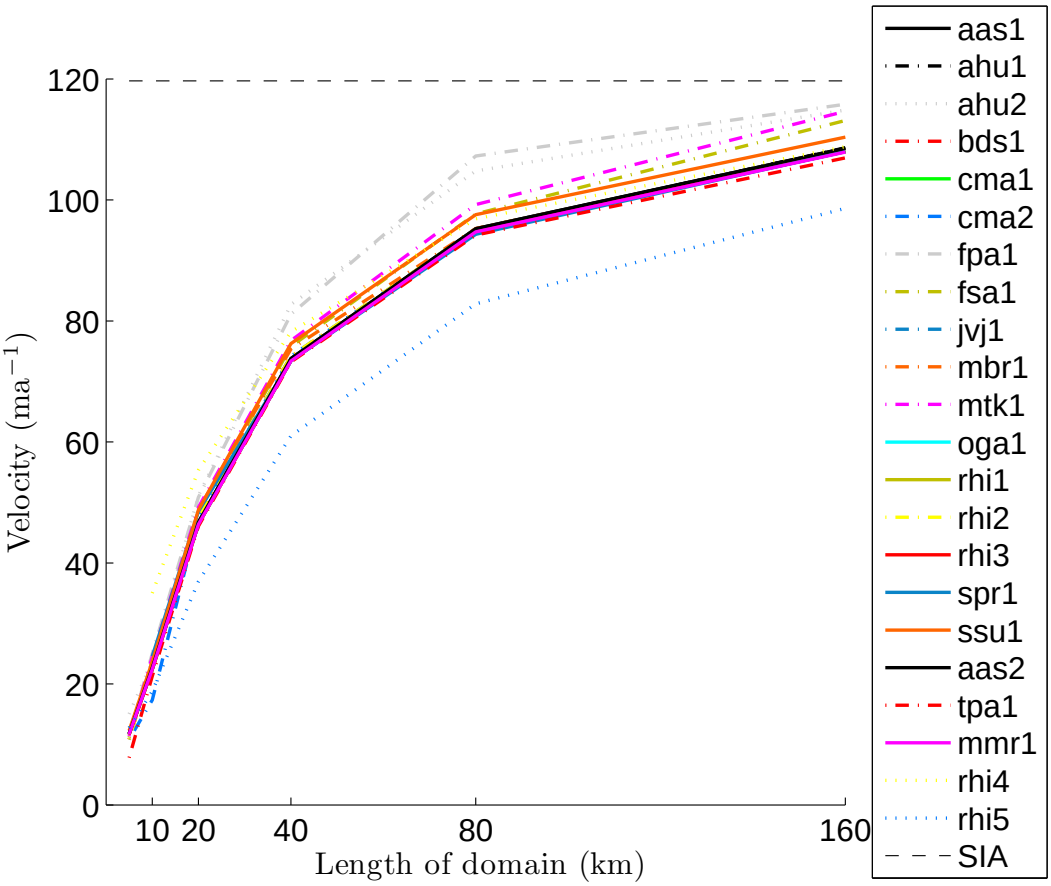

FIG. 12 – ExpB - Maximum surface velocity value in x direction for each domain length.

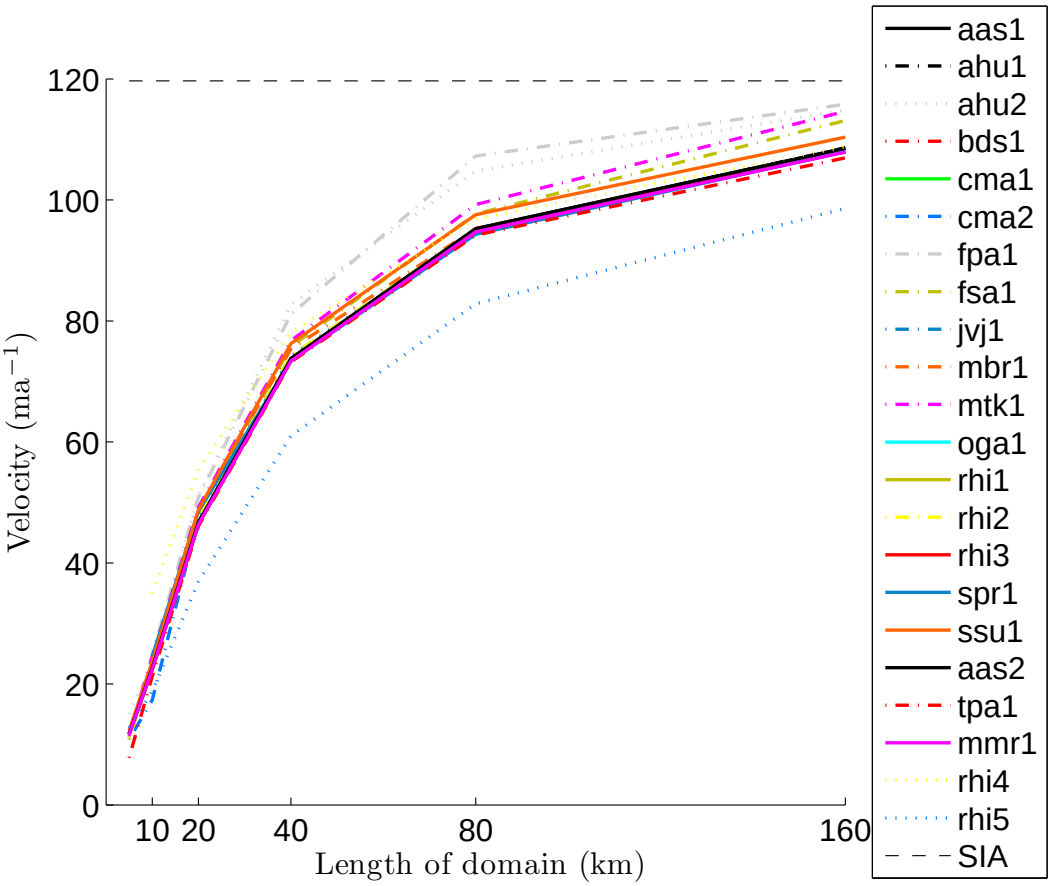

FIG. 13 – ExpB - Minimum surface velocity value in x direction for each domain length.

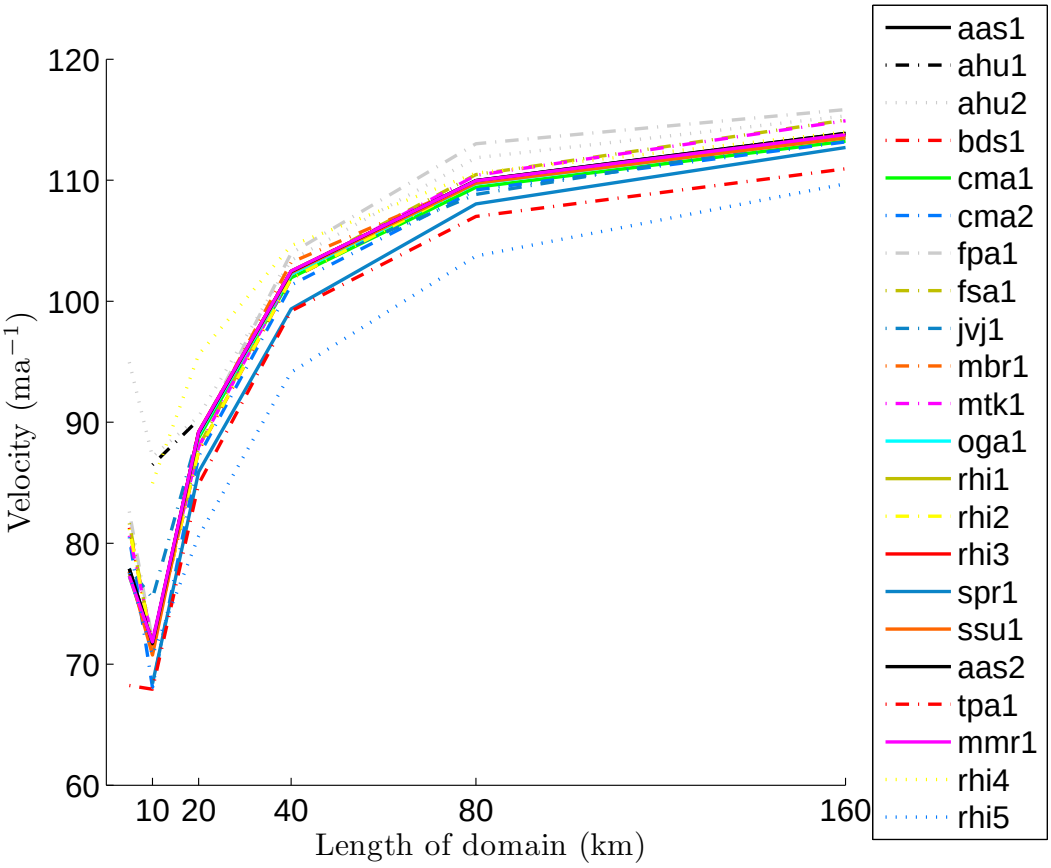

FIG. 14 – ExpB - Maximum shear stress txz value for each domain length.

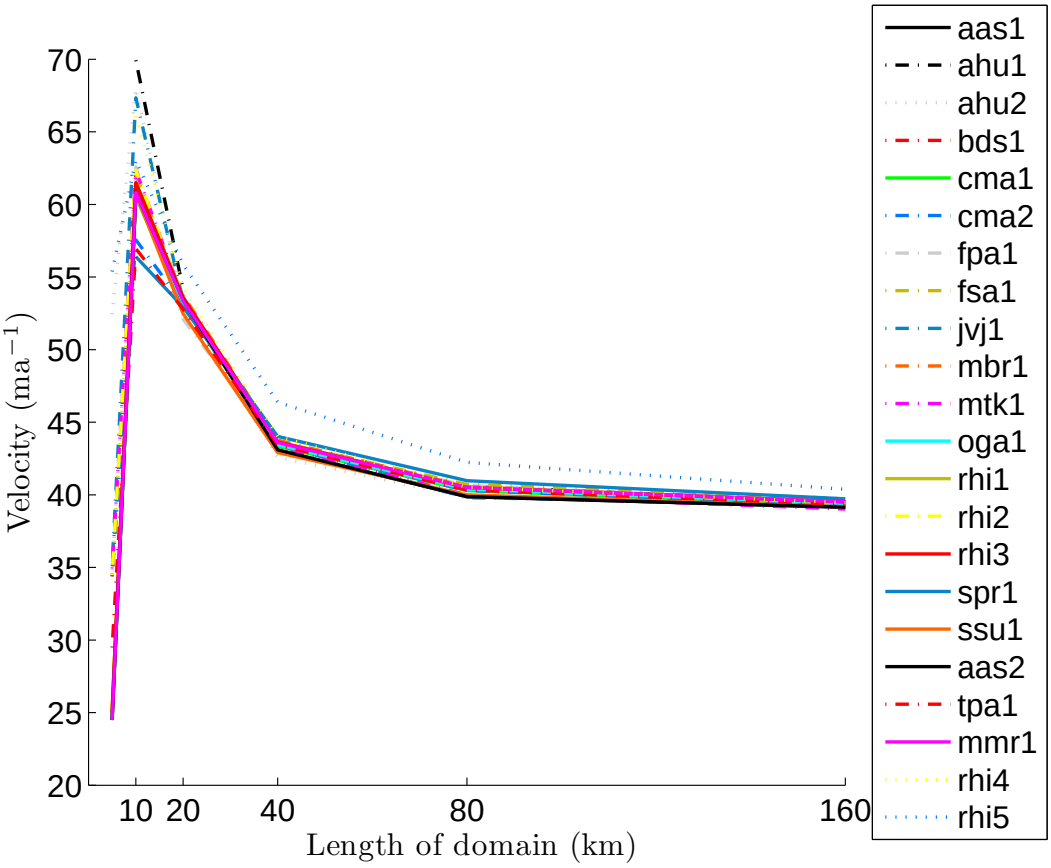

FIG. 15 – ExpB - Minimum shear stress txz value for each domain length.

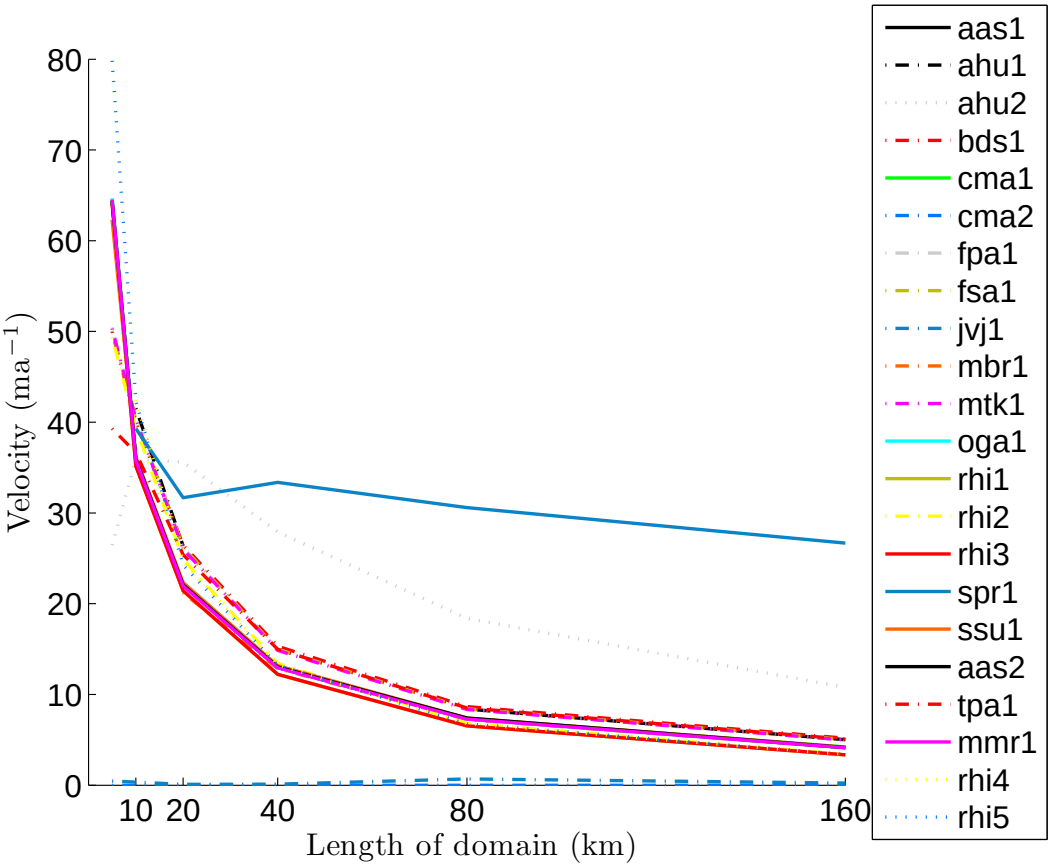

FIG. 16 – ExpB - Maximum dp value

Experiment C

This is a 3D ice-stream experiment. Please see details in the 2006 ISMIP-HOM intercomparison exercice settings.
Firstly, we present velocity at surface, shear stress τ_{xz} and dp in the x direction for $y = 0.25$ for domain lengths of 5 km and 10 km (lengthscales where significant differences and variations are observed).
Secondly, we present the maximum/minimum over whole domain at each domain length for velocity in x direction (and the maximum amplitude of the velocity in the x direction), for shear stress τ_{xz} and dp.

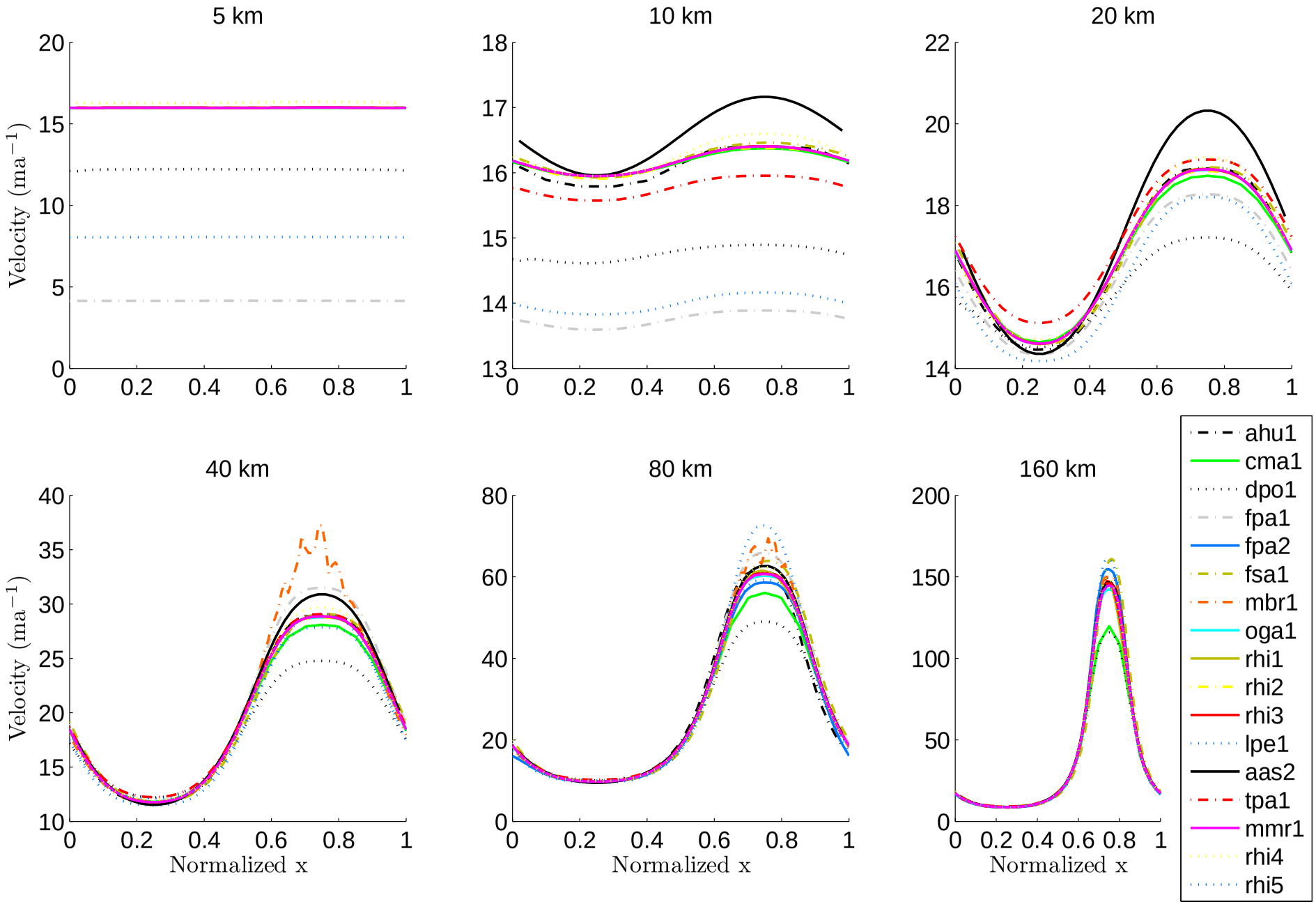

FIG. 17 – ExpC - Surface velocity in the x direction for each domain length.

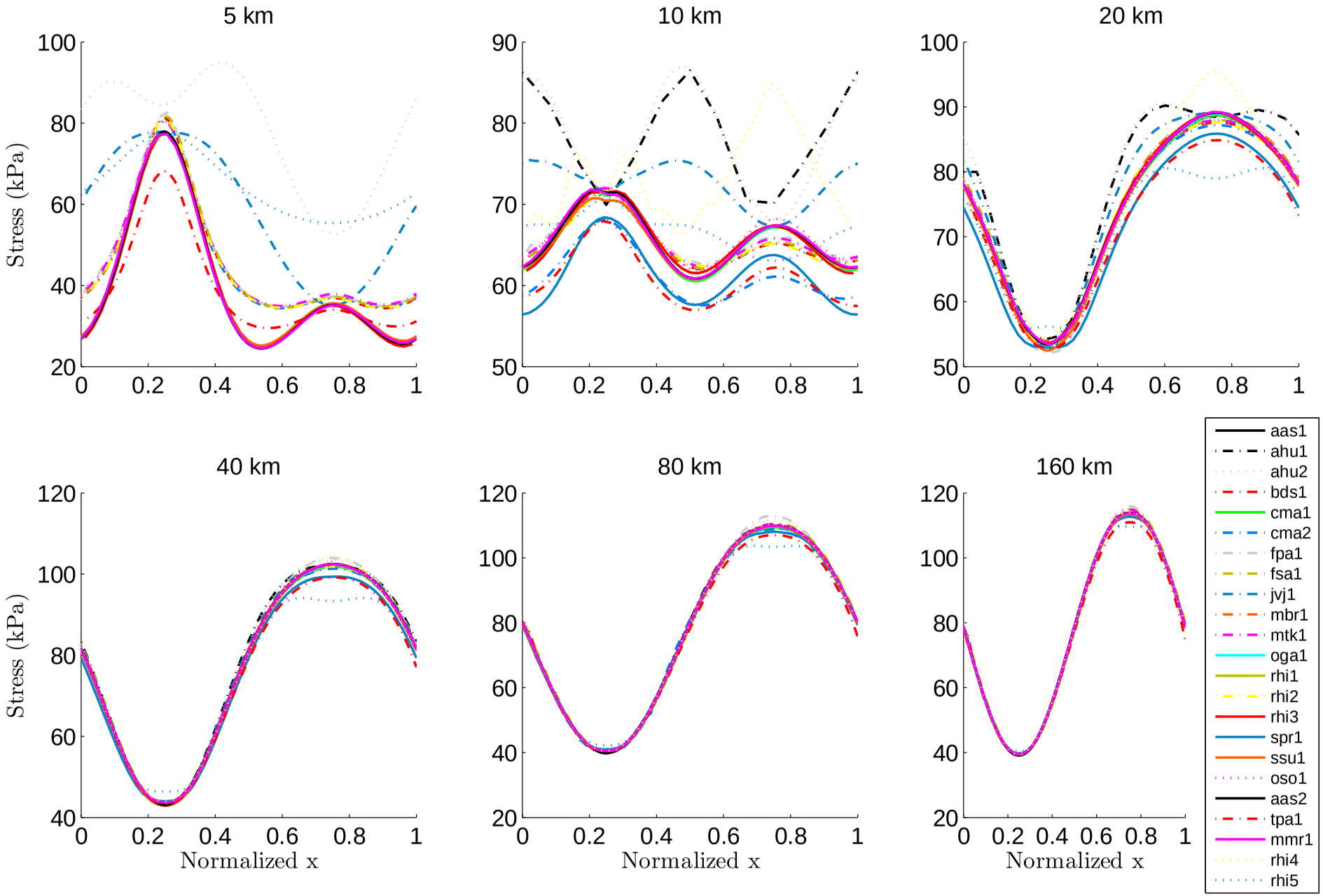

FIG. 18 – ExpC - Shear stress txz for each domain length.

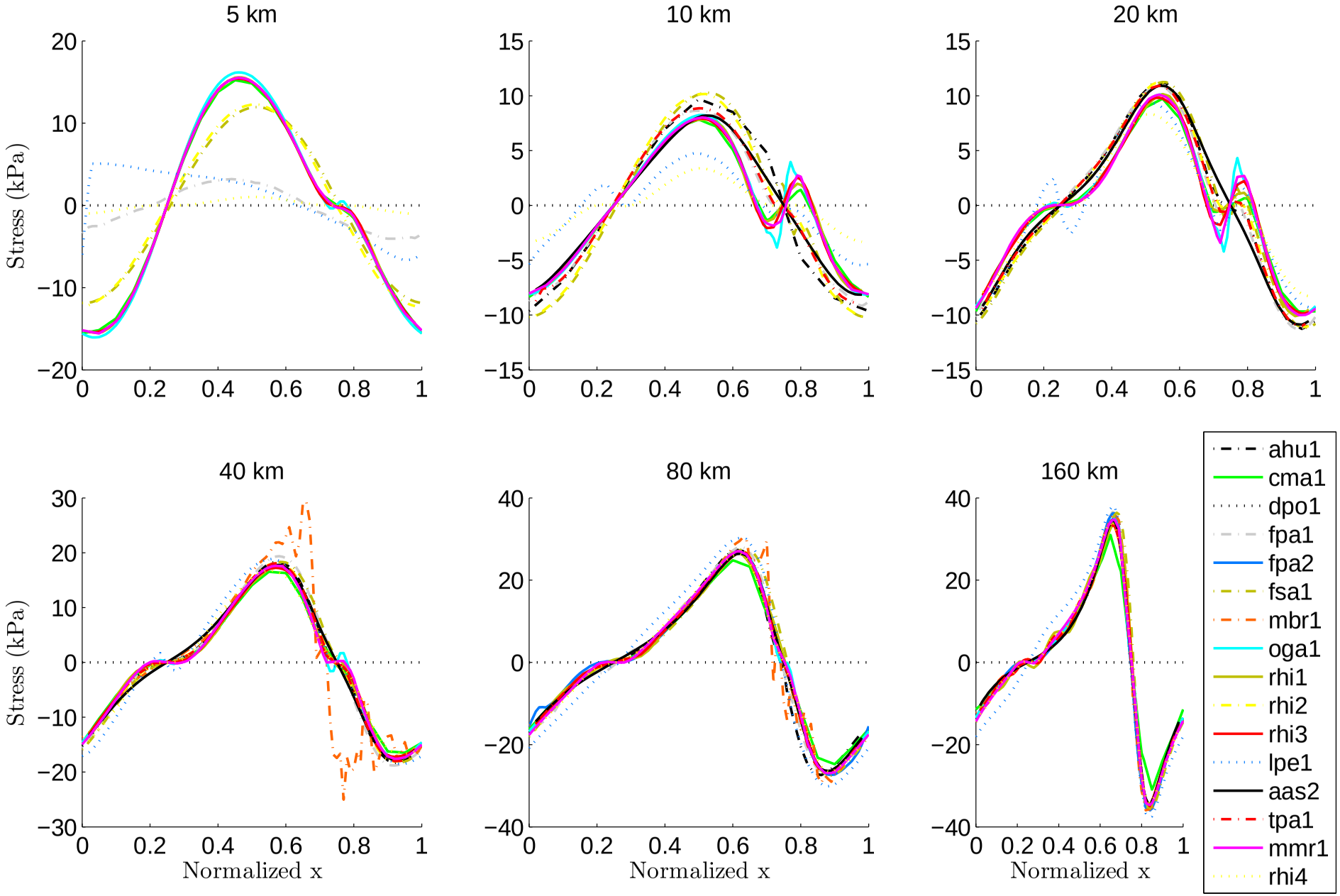

FIG. 19 – ExpC - Dp for each domain length.

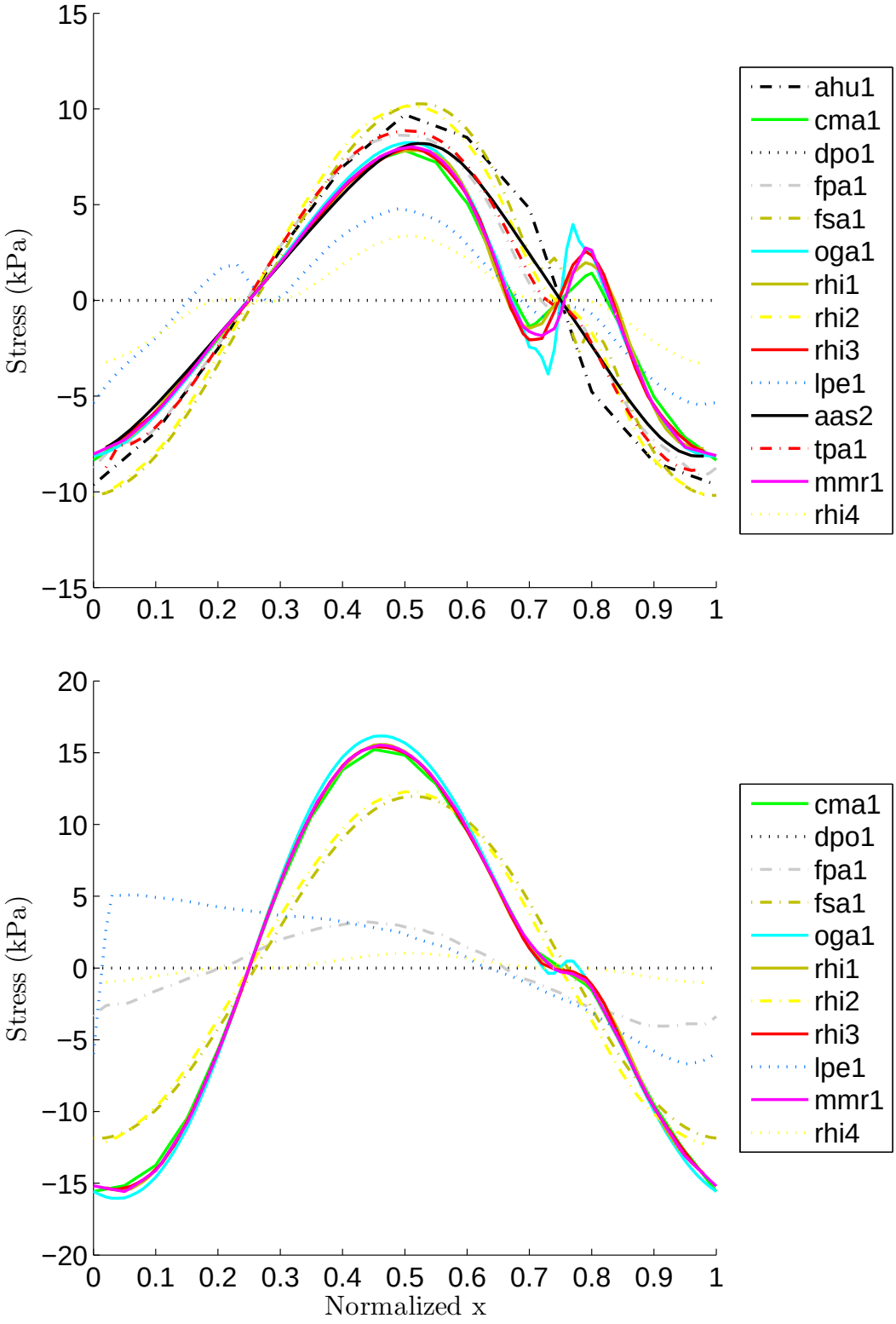

FIG. 20 – ExpC - Dp for 10 km and 5 km

Experiment D

This is a 2D ice-stream experiment (flowline). Please see details in the 2006 ISMIP-HOM intercomparison exercice settings.
Firstly, we present velocity at surface, shear stress τ_{xz} and dp in the x direction for $y = 0.25$ for domain lengths of 5 km and 10 km (lengthscales where significant differences and variations are observed).
Secondly, we present the maximum/minimum over whole domain at each domain length for velocity in x direction (and the maximum amplitude of the velocity in the x direction), for shear stress τ_{xz} and dp.

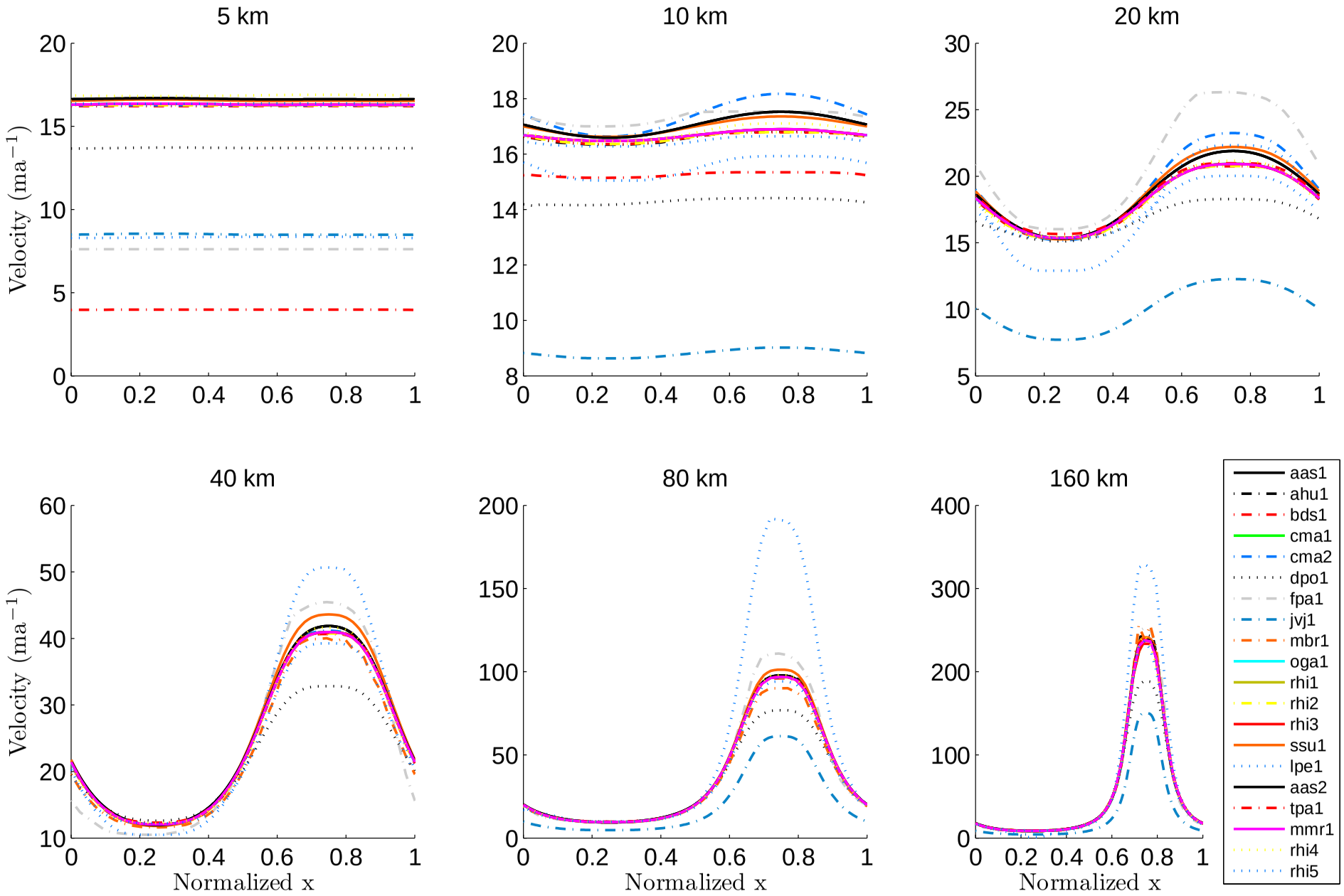

FIG. 21 – ExpD - Surface velocity in the x direction for each domain length.

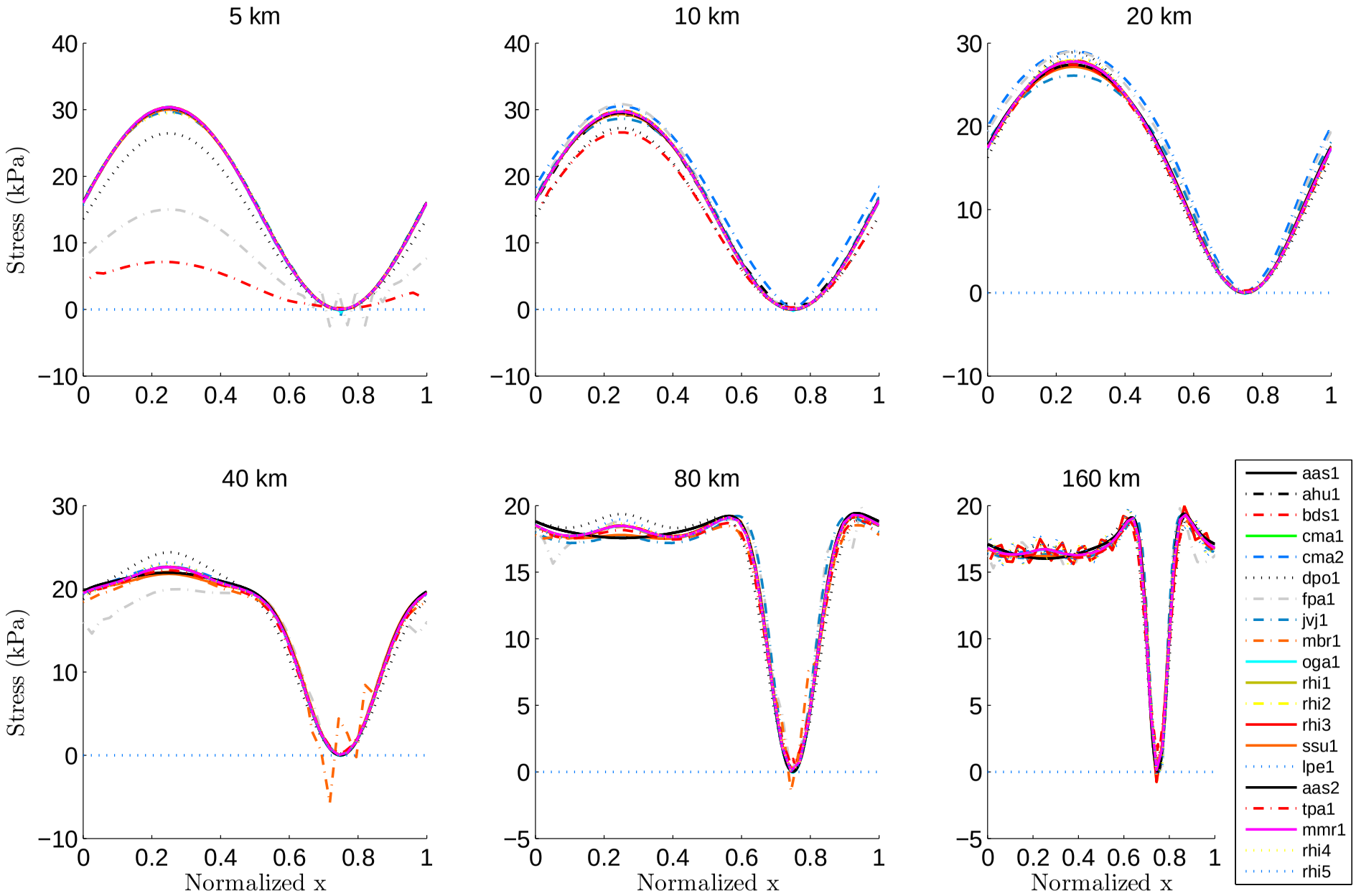

FIG. 22 – ExpD - Shear stress txz for each domain length.

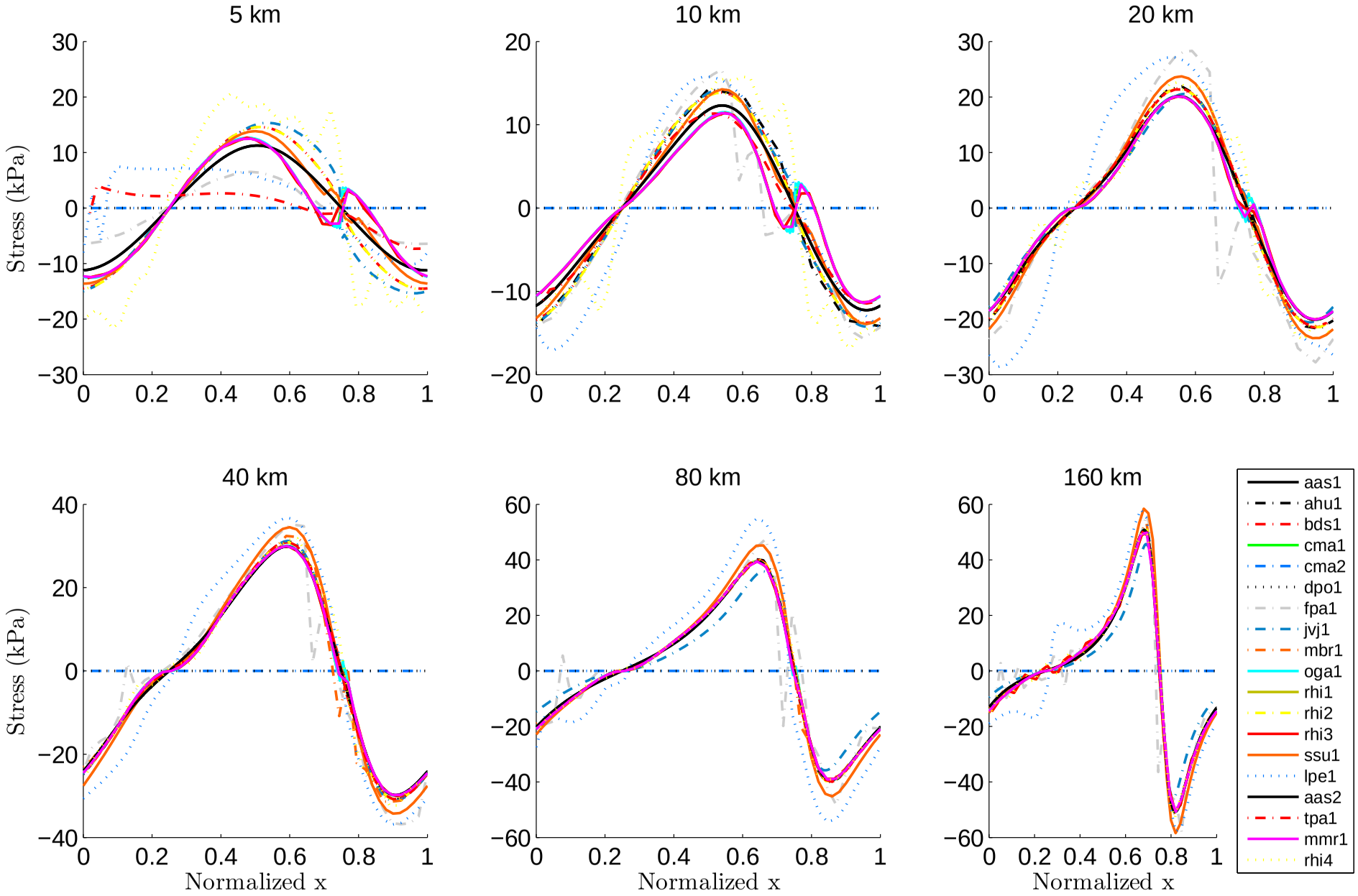

FIG. 23 – ExpD - Dp for each domain length.

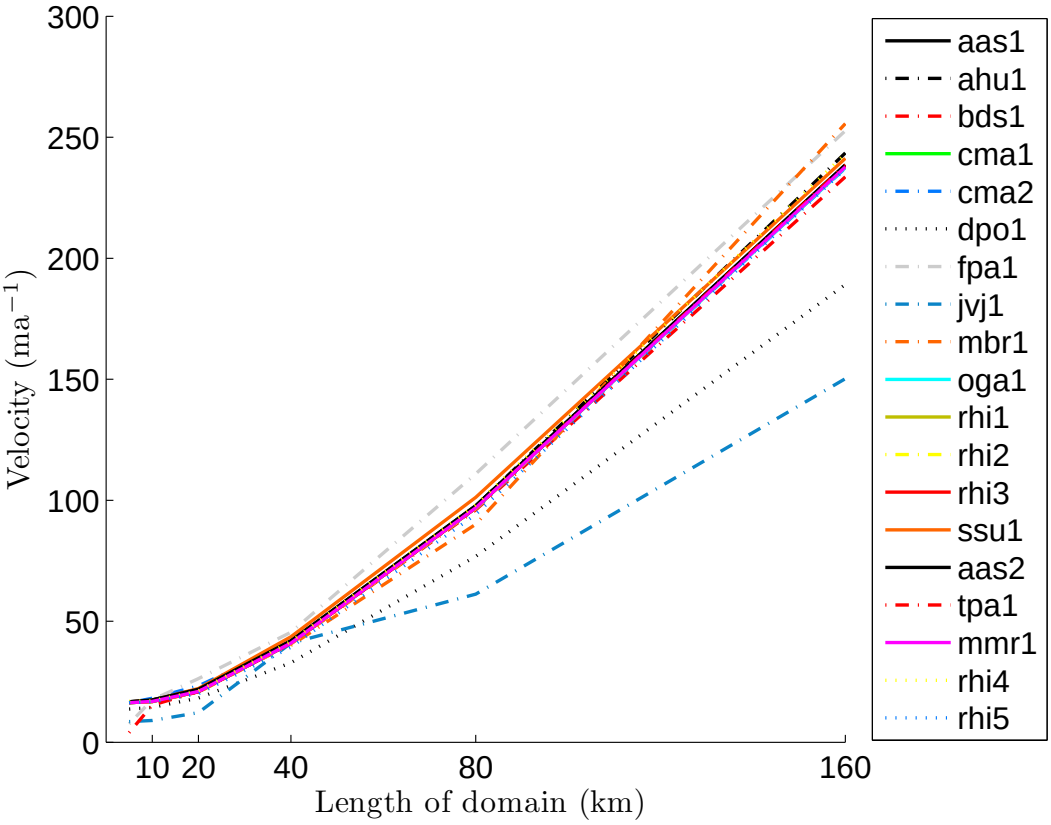

FIG. 24 – ExpD - Maximum surface velocity value in x direction for each domain length.

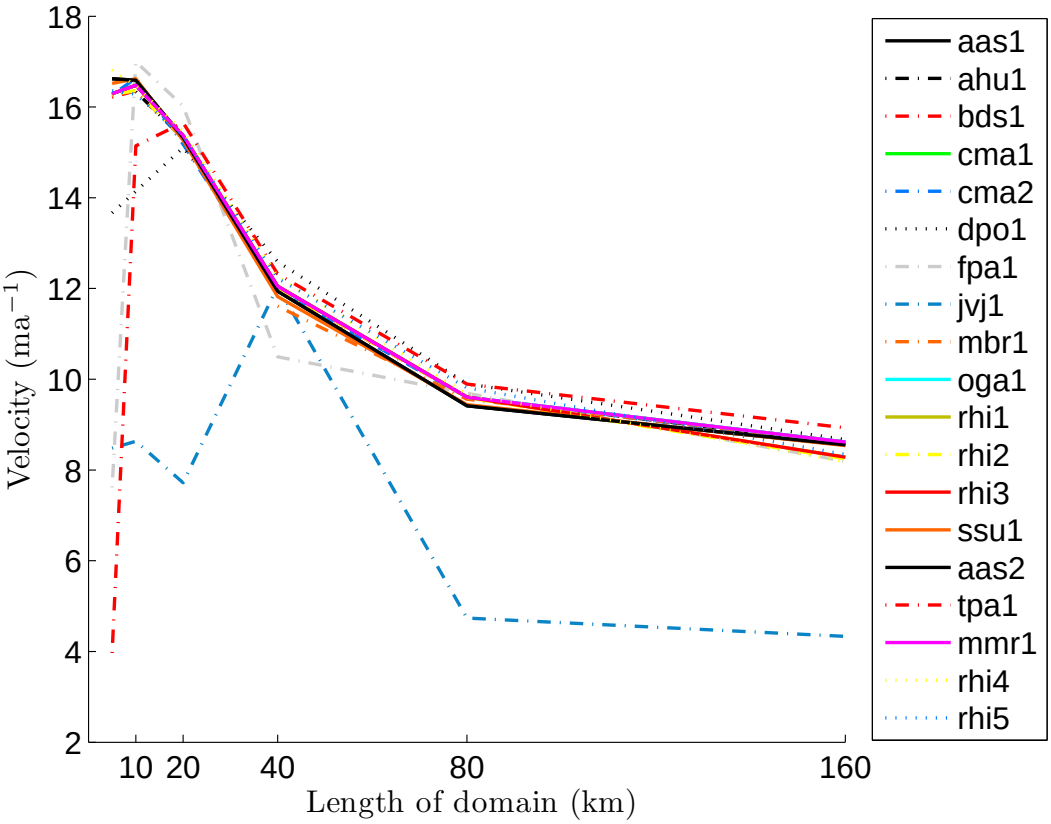

FIG. 25 – ExpD - Minimum surface velocity value in x direction for each domain length.

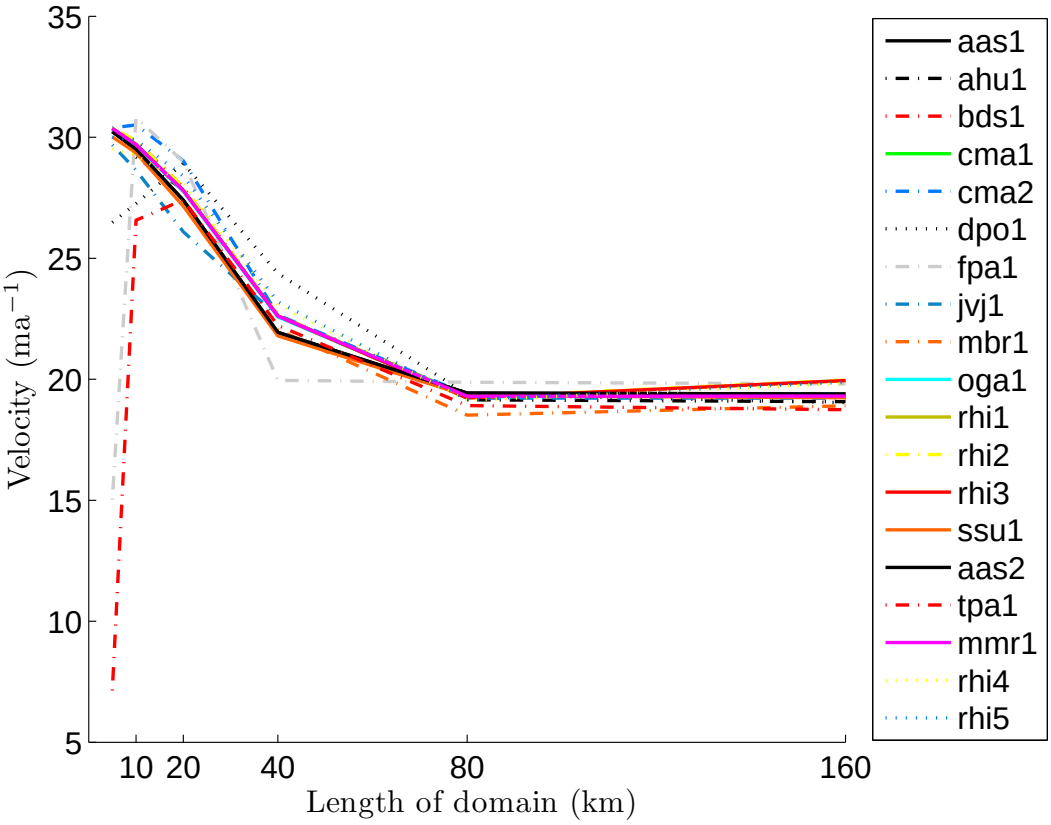

FIG. 26 – ExpD - Maximum shear stress txz value for each domain length.

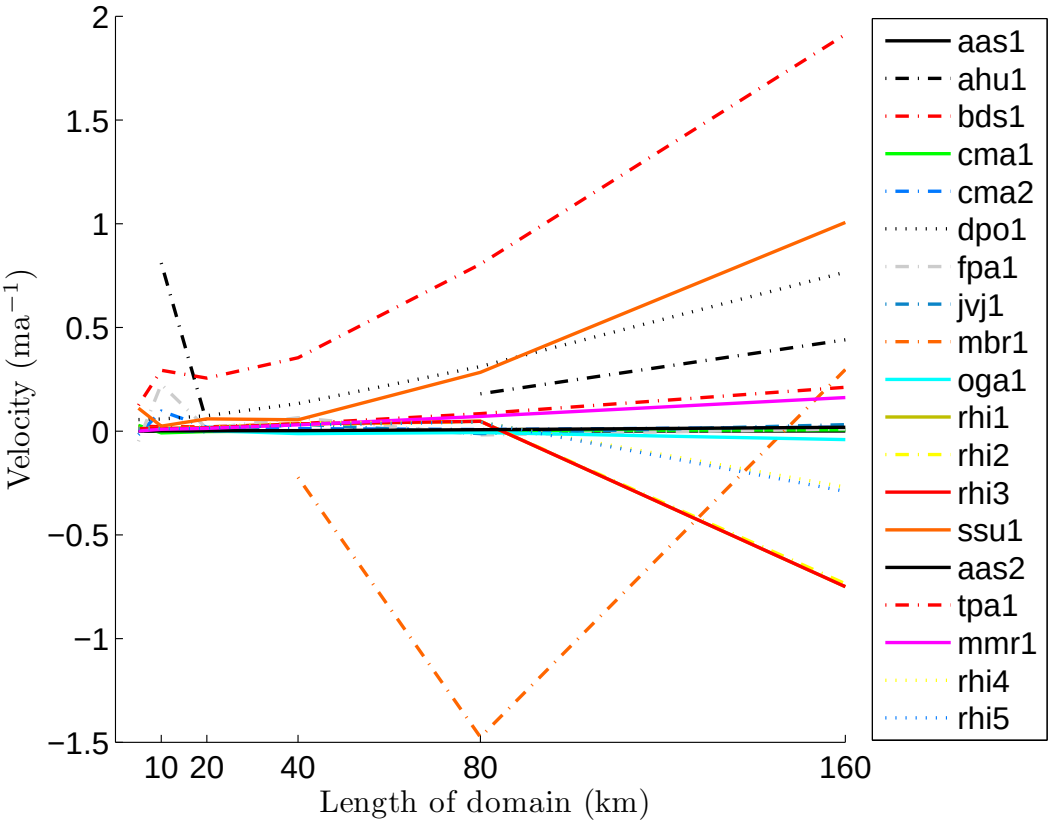

FIG. 27 – ExpD - Minimum shear stress txz value for each domain length.

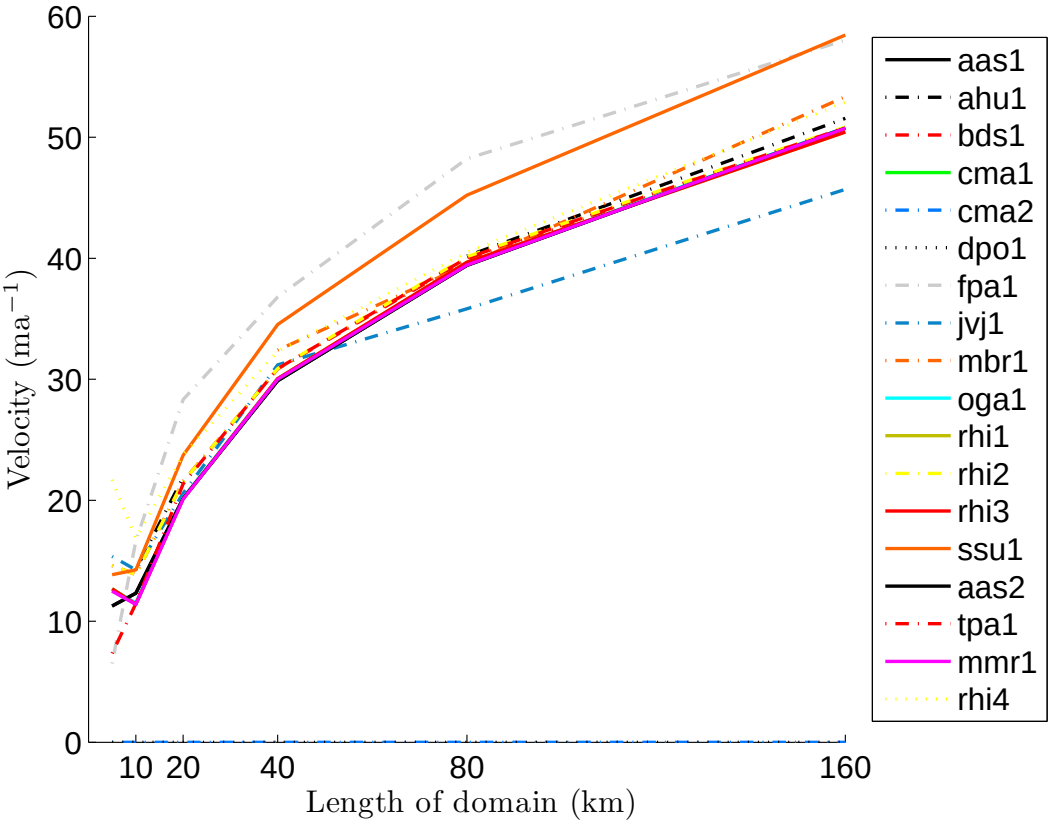

FIG. 28 – ExpD - Maximum dp value

Experiment E

This is a 2D ice-stream experiment. Please see details in the 2006 ISMIP-HOM intercomparison exercice settings. Velocity and shear stress are presented for zero sliding conditions and non-zero sliding conditions along the profile of the domain.

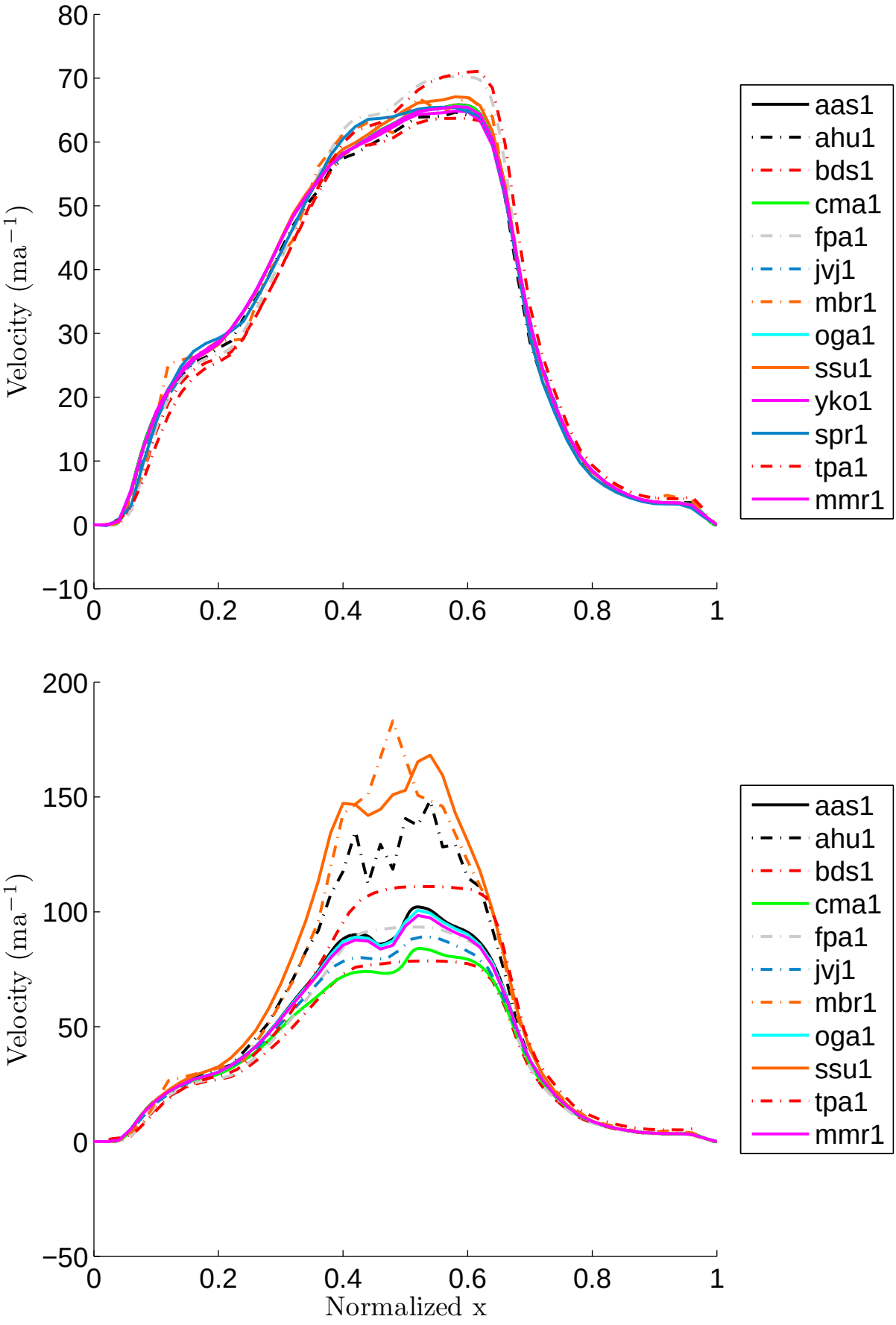

FIG. 29 – ExpE - Surface velocity in flow direction for non slippery and slippery case.

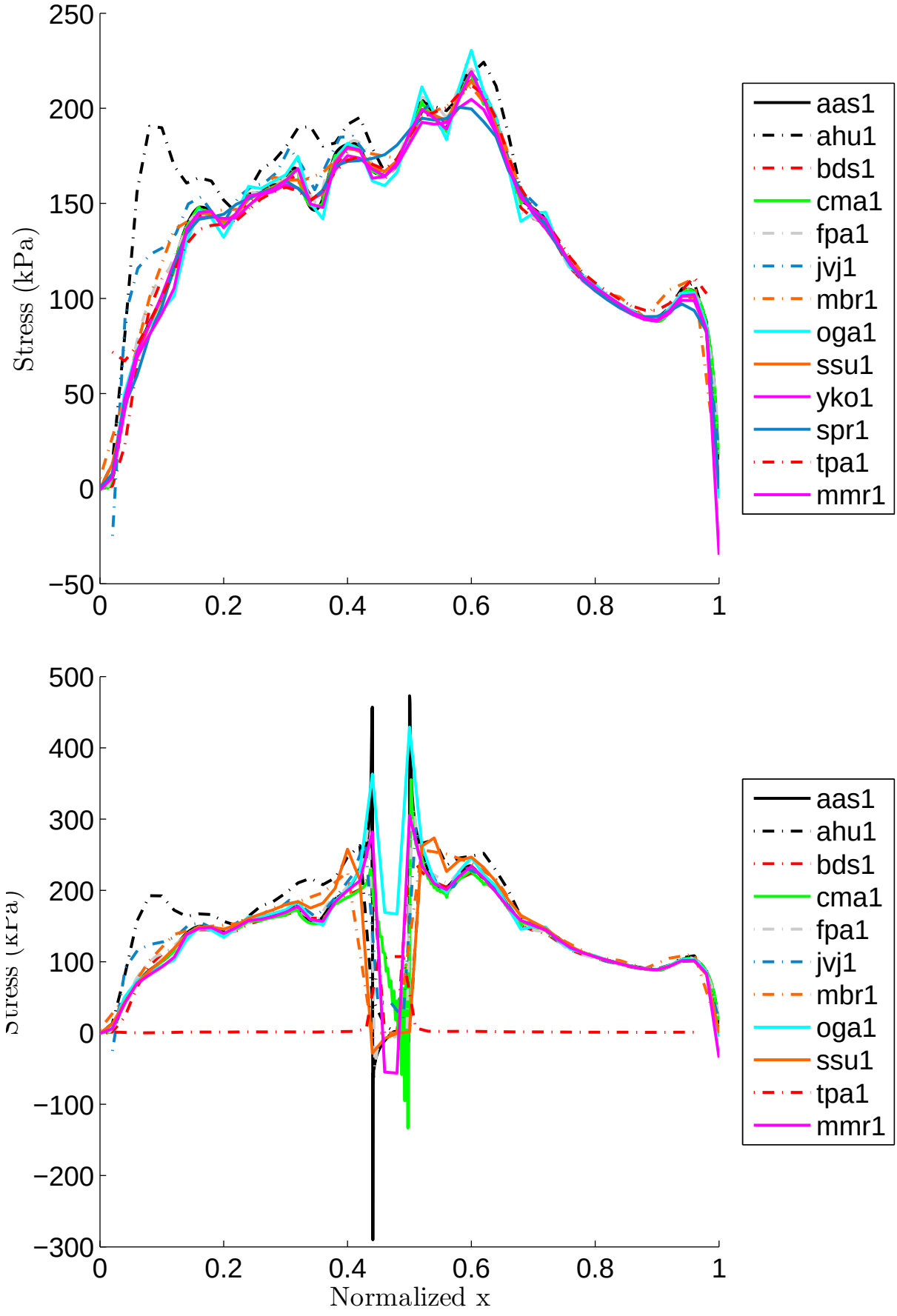

FIG. 30 – ExpE - Shear stress txz for non slippery and slippery case.

Experiment F

This is A 3D time dependant ice-sheet experiment. Please see details in the 2006 ISMIP-HOM intercomparison exercice settings. Perturbed values of the surface elevation, velocity in x direction and in z direction are presented for y=0 (half of the domain length) for zero sliding condition and non-zero sliding condition.

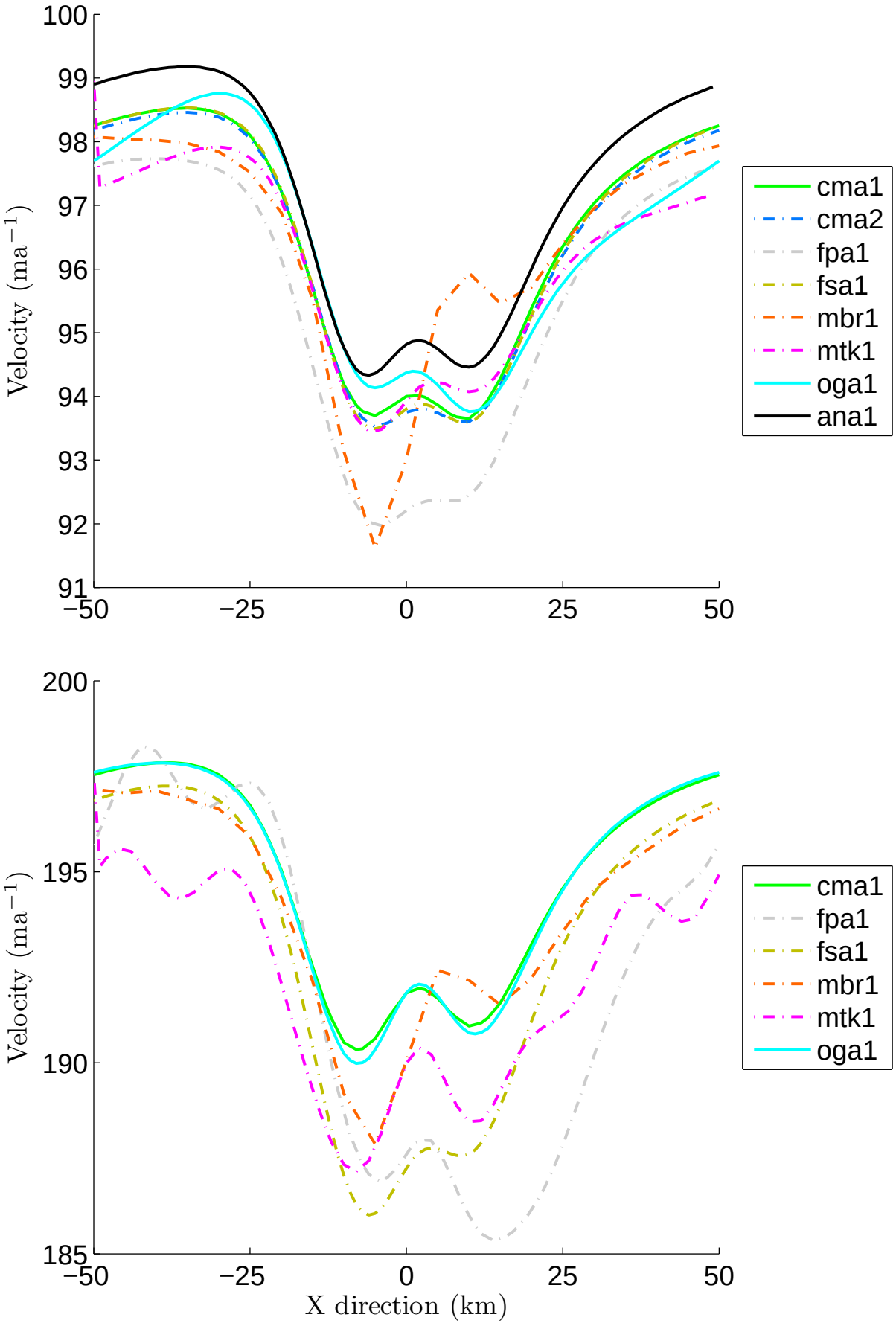

FIG. 31 – ExpF - Surface velocity in flow direction for non slippery and slippery case.

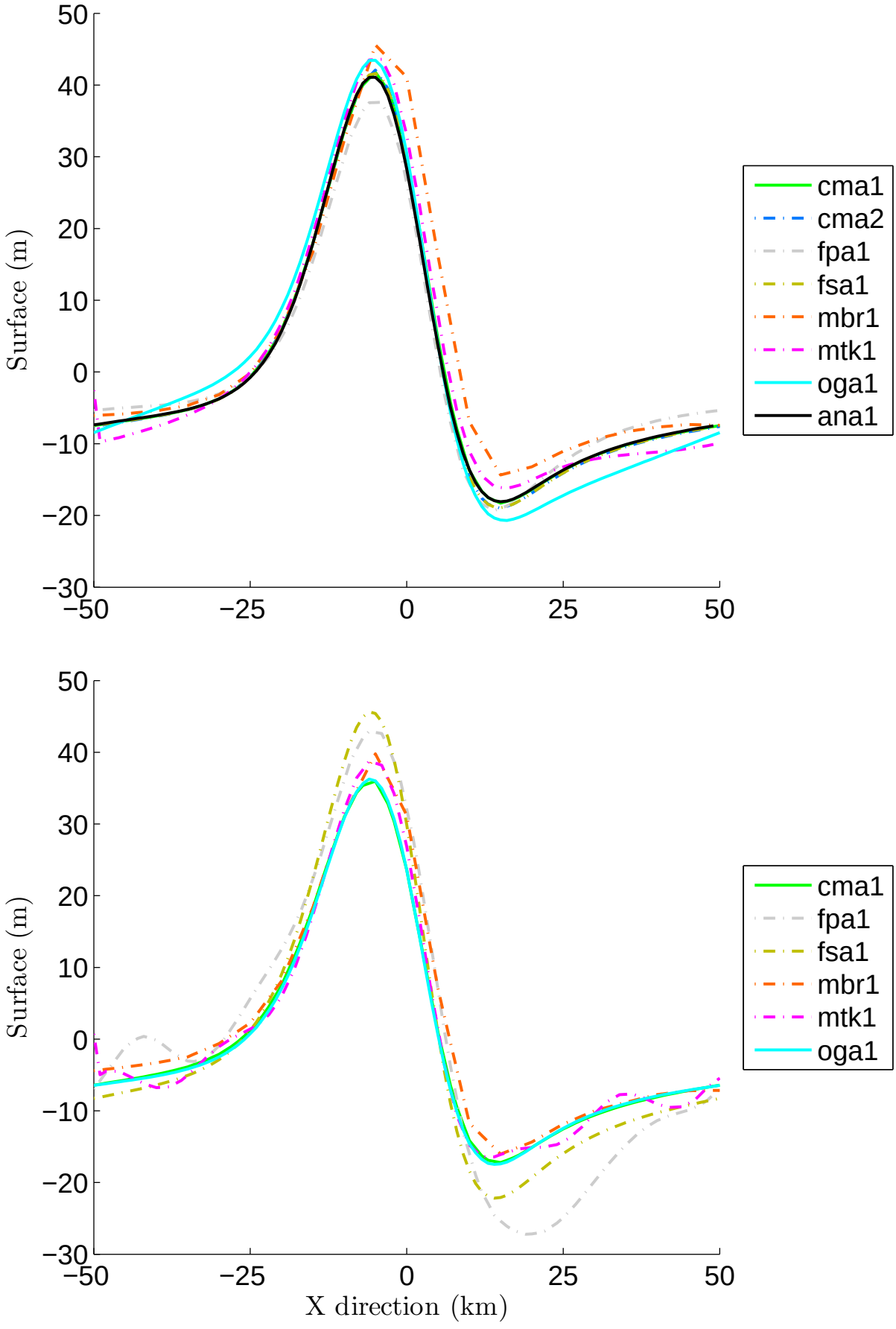

FIG. 32 – ExpF - Surface elevation for non slippery and slippery case.