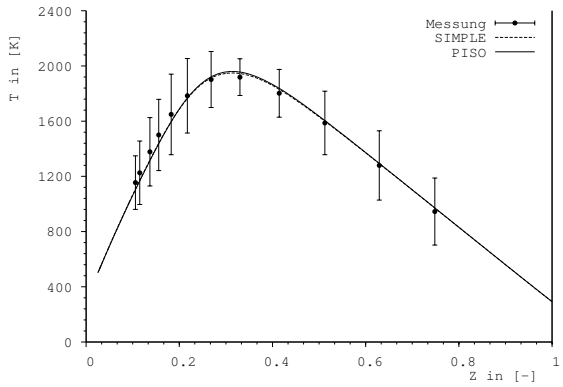
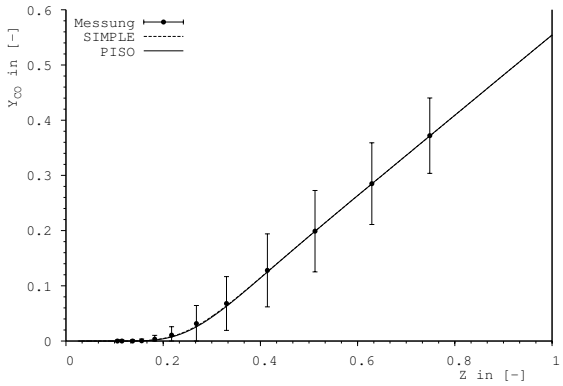
Flamelet Model for OpenFOAM®-2.2.x

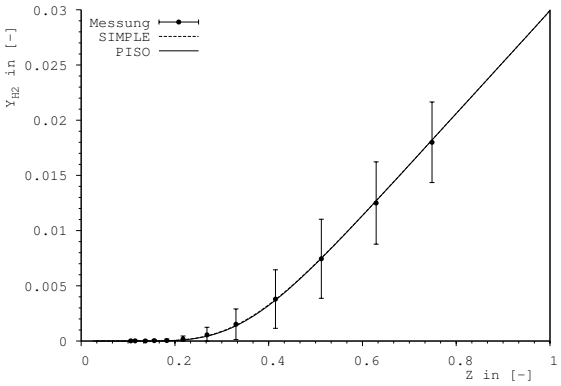
Validation

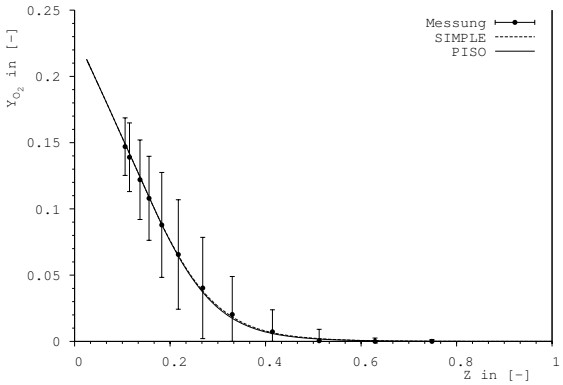
The transformation of the libOpenSMOKE (build by Alberto Cuoci and his team) in OpenFOAM-2.2.x is tested with the steady-state solver. Additionally this validation contains the new flameletPisoFoam solver. The thermophysical model is tested with an CO/H2/N2 mixture flame. The validation is made at the centerline (axis) of the model and on a radial profil x/D = 20, 40 and 60. I compared the results with the other validations I made in my masterthesis with the model build for 2.1.x. Same results are obtained. For more information about the geometry and boundary conditions visit: http://www.sandia.gov/TNF/simplejet.html

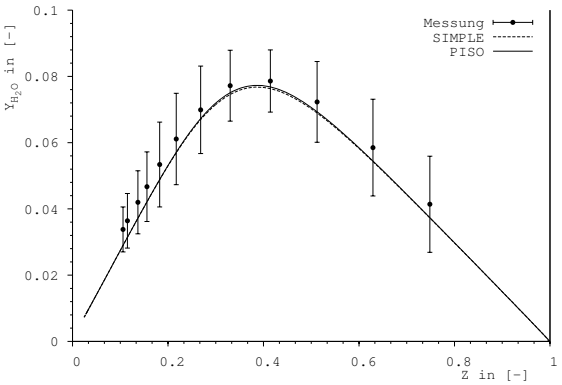
Centerline profiles

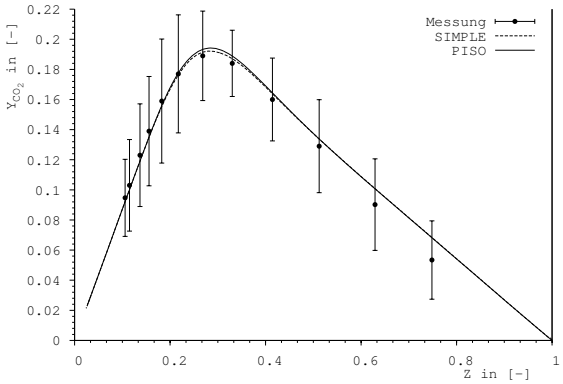


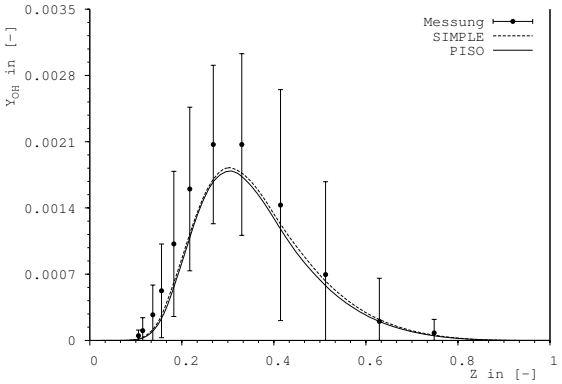




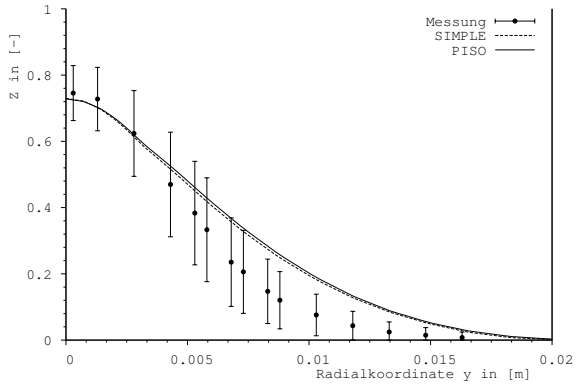


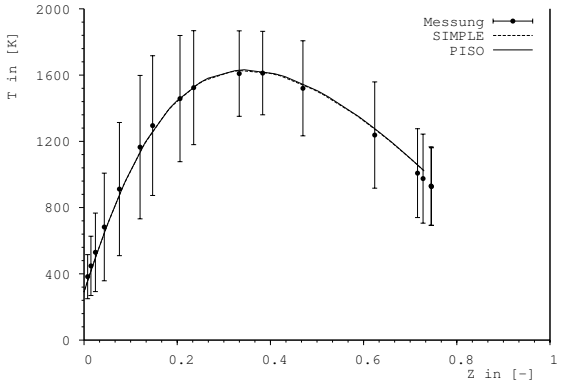


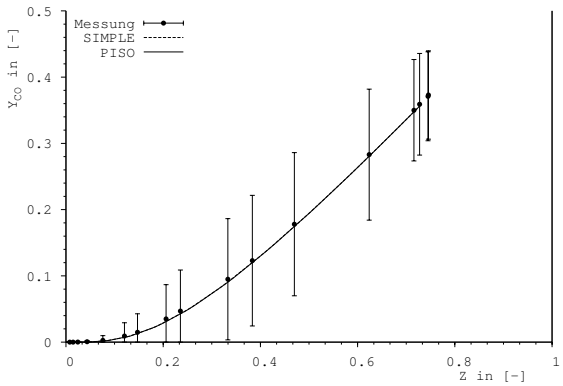


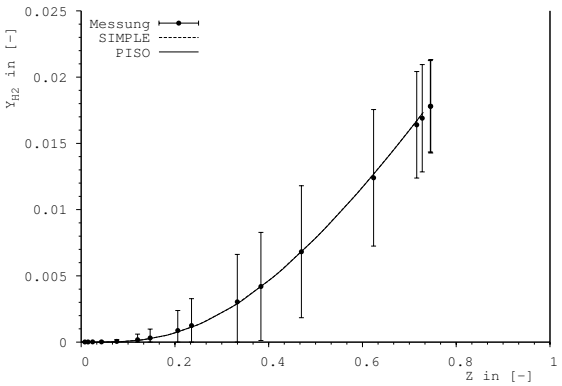


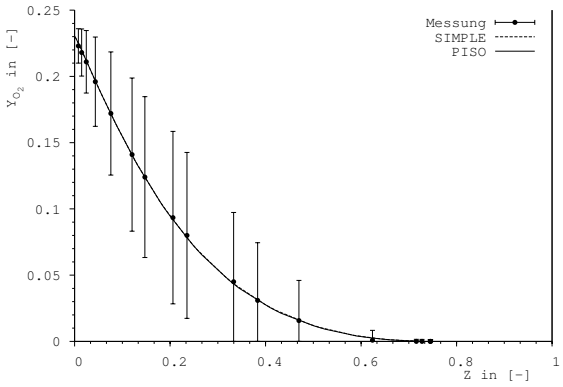
Radial profiles x/D=20

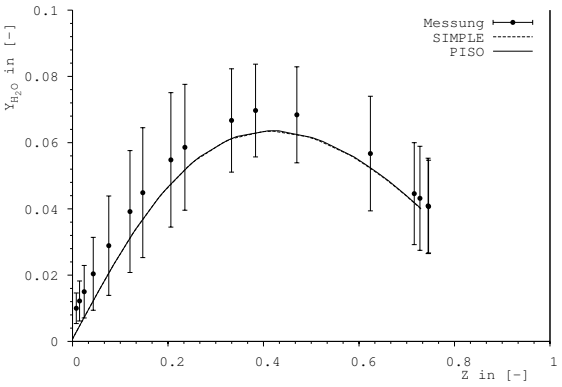


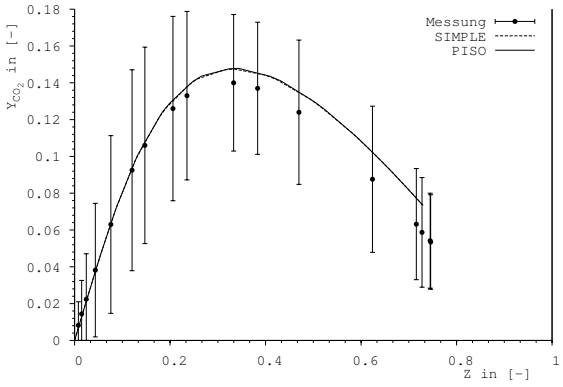


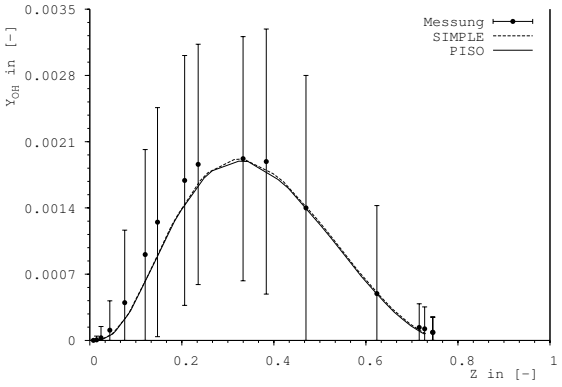




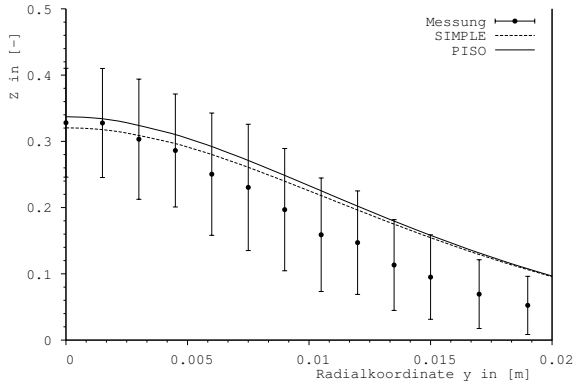


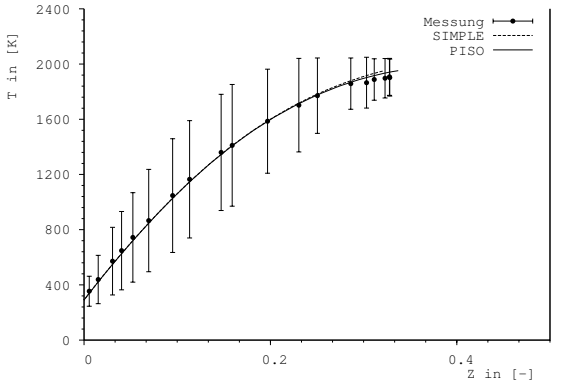


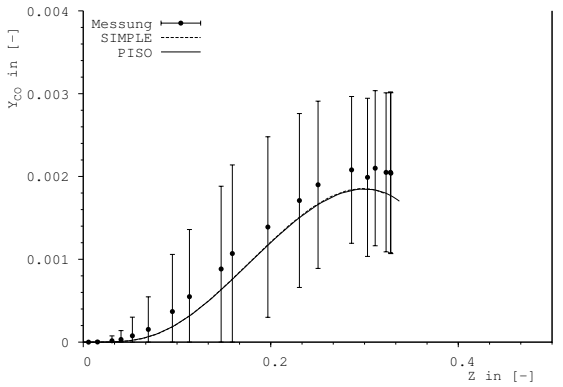


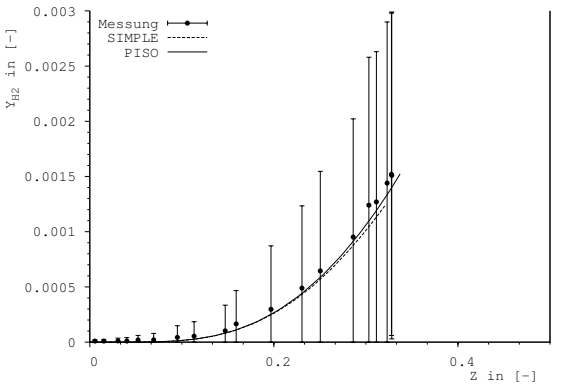


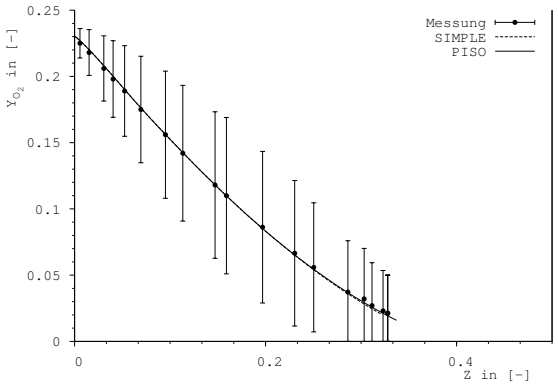
Radial profiles x/D=40

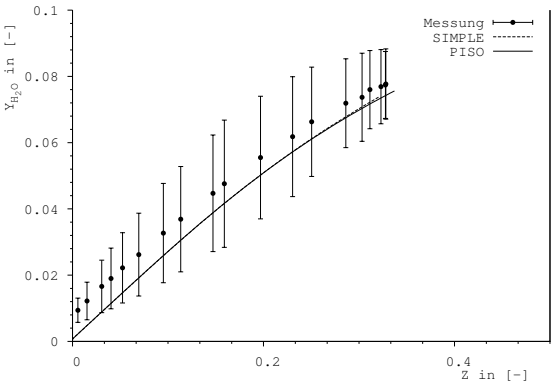


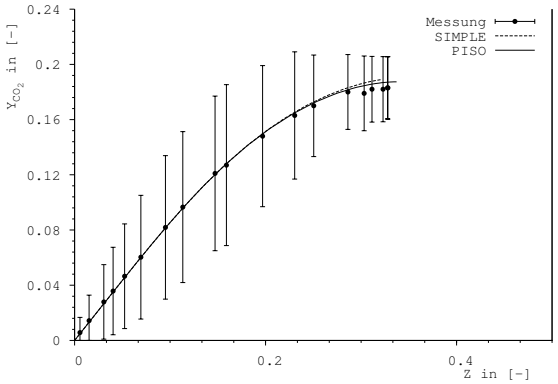


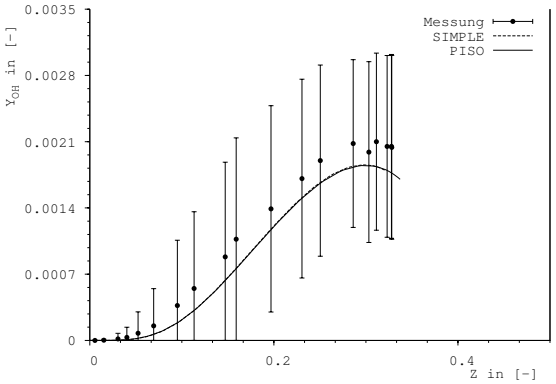




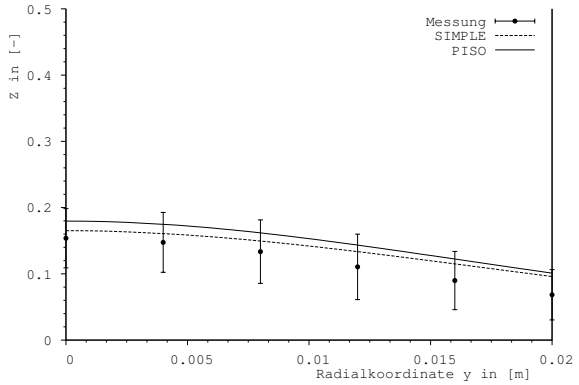


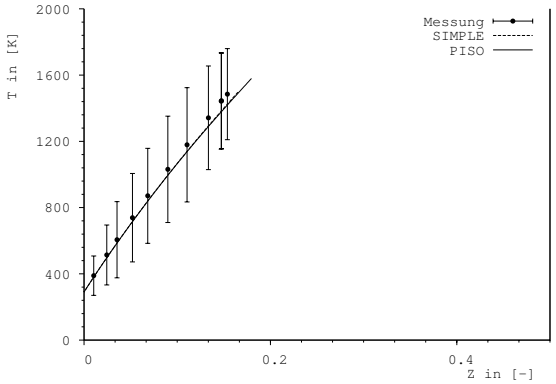


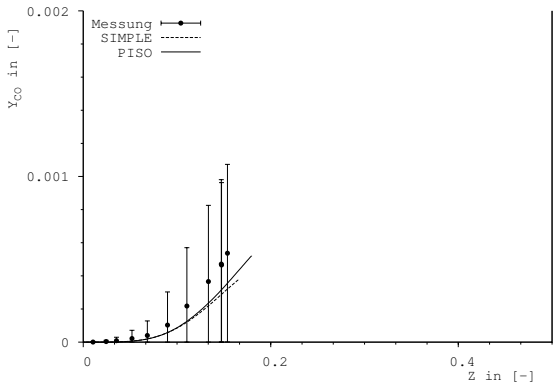


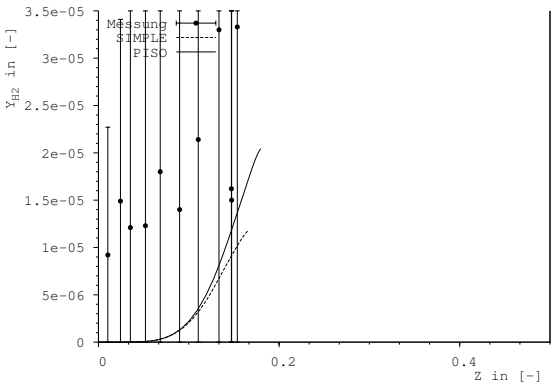


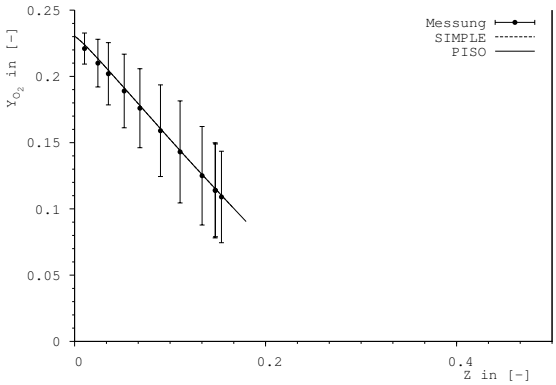
Radial profiles x/D=60







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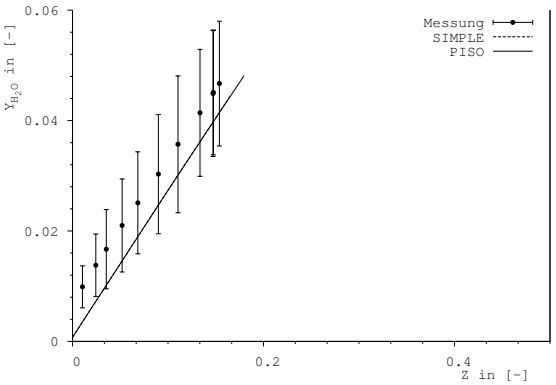
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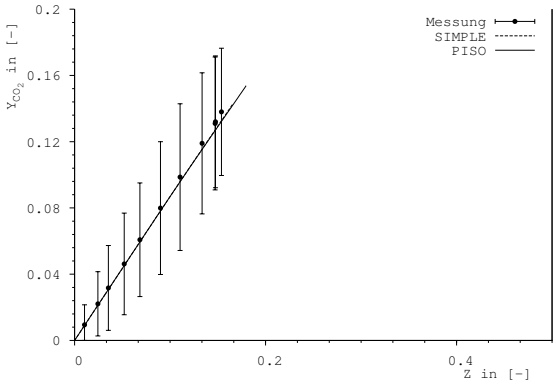
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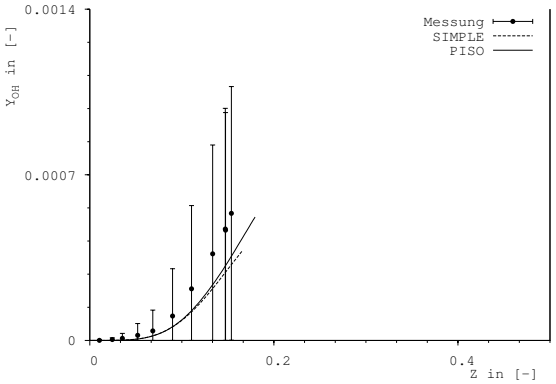
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