Modeling of multiscale porous media[1] B. BISWAL, ICP, University of Stuttgart, Germany, P.-E. OREN, Numerical Rocks AS, Norway, R.J. HELD, StatoilHydro ASA, Norway, S. BAKKE, Numerical Rocks AS, Norway, R. HILFER, ICP, University of Stuttgart, Germany — A continuum geometrical model for reconstructing three dimensional pore scale microstructure of multiscale porous media is presented. Pore scale geometries of different carbonate textures are successfully reconstructed with informations from thin sections. The reconstructed models incorporate correlations with the primordial depositional textures, scale dependent intergranular porosity over many decades, vuggy porosity, a percolating pore space, a fully connected matrix space, strong resolution dependence and wide variability in the permeabilities and other properties. A method to generate synthetic micro-CT images at arbitrary resolutions is also developed. The model can be extended to a wide class of multiscale porous media.

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