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Adrian Muntean* (a.muntean@tue.nl), Department of Mathematics, Eindhoven University of Technology, 5600 MB Eindhoven, Netherlands. *Homogenization for a kinetic description of self-assembly of fibrous materials.*

We present a continuum PDE-ODE model for collagen self-assembly describing the interplay between the change in the polymer distribution and the evolution of monomers. We endow the model with periodic coefficients, where the small parameter ϵ is interpreted as the ratio of lengths of monomers and fibrils. After applying a fixed-point homogenization argument and proving corrector estimates, we use information from the first-order corrections to explain the so-called "turbidity measurement".

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