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On the determination of primitive paths in entangled polymer melts and networks MICHAEL LANG, MICHAEL RUBINSTEIN, Department of Chemistry, University of North Carolina at Chapel Hill, N.C. — The primitive path of a polymer chain in a melt or a network can be understood as the center line for the minima of a constraining potential, which describes the essence of the entanglement interactions of neighboring chains with a given polymer. Thus, the conformation of the primitive path plays a key role for the determination of tube parameters or the shape of the tube potential. In recent years, different methods and models for the determination of the primitive paths in entangled polymer melts and networks have been proposed leading to different results for the primitive path. In this contribution, the differences of these models as well as their assumptions on systems, calculations, or simulations will be compared and discussed in order to determine the optimal method for finding a primitive path.

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