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Structure and Fluidity of Solid-supported Membranes. Bert Nickel, Christian Reich, Joachim Rädler, Dept. für Physik, Ludwig-Maximilians-Univ. München, Geschwister-Scholl-Platz 1, München, 80539 GERMANY.

In this talk, I will present a comprehensive approach to study solid supported membranes. The experiments are based on a microfluidics chamber embedding a flat substrate. Fluorescence microscopy and synchrotron reflectivity experiments have been performed at the same samples to study simultaneously the structure and fluidity of solid supported membranes on silicon oxide, on polyelectrolyte (multi-)layers, and on thermoplastics. Furthermore, we have used this setup to develop new strategies of tethering membranes to surfaces and to study lipid mixtures.