Contact Structures Associated To Four-Punctured Sphere

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In this talk, we study contact structures supported by open book decompositions having planar pages with at most four boundary components. Among these contact structures we prove that a certain family is holomorphically fillable using lantern relation, and show the overtwistedness of certain families using the study of right-veering diffeomorphisms. We also develop some computational techniques to understand the EH-invariant of planar contact structures, and using them we show that certain classes of contact structures supported by four-punctured sphere are tight.