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Extensions of 1-cocycles of the mapping class group to the Ptolemy groupoid

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For a punctured oriented surface, the isotopy classes of ribbon graph spines on it constitute a cell complex. It can be thought of as a combinatorial model of the Teichmuller space of the surface. The fundamental path groupoid of this cell complex is called the Ptolemy groupoid. In this talk, we discuss various 1-cocycles on the Ptolemy groupoid and the corresponding twisted first cohomology of the mapping class group of the surface. In particular, we focus on a 1-cocycle introduced by Penner in 2012. (Joint work with Kae Takezawa.)

Presenter: KUNO, Yusuke (Tsuda University)