

On Thurston's inequality for spinnable foliations

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This is a report on a joint work with Hiroki Kodama, Shigeaki Miyoshi, and Atsuhide Mori. We study how the topological properties of the monodromy of spinnable structure (=open book decomposition) are related with the convexity of the foliation and the contact structure associated to the spinnable structure. We show that certain conditions on the monodromy imply the violation of absolute Thurston's inequality for the associated foliation. Passing through contact structures, this leads the violation of the relative inequality. Of course the violation for Thurston-Bennequin's inequality for associated contact structures are concluded as well. As an application we see certain mapping classes of surfaces with boundary can be written neither as products of right handed Dehn-twists nor as that of left-handed ones. This phenomena does not happen for closed surfaces.