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Saul Schleimer and **Henry Segerman*** (segerman@math.okstate.edu), OK. *Veering Dehn surgery*. Preliminary report.

Veering structures on ideal triangulations of cusped manifolds were introduced by Ian Agol, who showed that every pseudo-Anosov mapping torus over a surface, drilled along all singular points of the measured foliations, has an ideal triangulation with a veering structure. Any such structure coming from Agol's construction is necessarily layered, although a few non-layered structures have been found by randomised search. We introduce veering Dehn surgery, which can be applied to certain veering triangulations, to produce veering triangulations of a surgered manifold. As an application we find an infinite family of transverse veering triangulations none of which are layered. Until recently, it was hoped that veering triangulations might be geometric, however the first counterexamples were found recently by Issa, Hodgson and the second author. We also apply our surgery construction to find a different infinite family of transverse veering triangulations, none of which are geometric. (Received January 15, 2015)