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Seungwon Kim* (math751@gmail.com). *Link diagrams with Turaev genus one*. Preliminary report.

The Turaev genus of a link is a topological measure of how far a given link is from being alternating. We show that every prime Turaev genus one link is a cycle of alternating 2-tangles. The proof provides a new way to obtain a meridian-longitude basis for the Turaev surface from the link diagram. (Received January 20, 2015)