1116-05-1205 **Hailun Zheng*** (hailunz@uw.edu), University of Washington, Department of Mathematics, Box 354350, Seattle, WA 98195. *Minimal balanced triangulations of sphere bundles over the circle.*

Starting from mid eighties, several researchers (the list includes Kühnel; Bagchi, Datta; Chestnut, Sapir and Swartz) worked on and succeeded in determining the minimum number of vertices needed to triangulate S^{d-2}-bundles over S^1. However, the analogous question for the case of balanced triangulations remained open: Klee and Novik gave an explicit construction of a balanced triangulation of a sphere bundle with $3d$ vertices that is orientable or non-orientable depending on the parity of d; they also constructed balanced triangulations of both bundles with an arbitrary number of vertices $N \geq 3d+2$, and asked if their constructions with $3d$ and $3d+2$ vertices are indeed minimal. We provides an affirmative answer to their conjecture: if d is odd and the bundle is orientable, or d is even and the bundle is non-orientable, then the minimum number of vertices is $3d$; otherwise, it is $3d+2$. (Received September 17, 2015)