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**Jason DeBlois\*** (jdeblois@pitt.edu), **Stefan Friedl** and **Stefano Vidussi**. *Rank gradient and the JSJ decomposition.*

I will state a couple of results on rank gradient of cyclic covers of 3-manifolds, then focus on a key topological argument in one of them. It bounds the number of times an immersed cylinder can cross a surface  $S$  embedded in a hyperbolic 3-manifold  $M$ , using the JSJ decomposition of the manifold-with-boundary obtained by cutting  $M$  along  $S$ . Marc Culler's name for it gives an idea how it goes: 'vegematic argument'. (Received August 14, 2013)