TOWARDS A TOPOLOGICAL PROOF OF THE FOUR COLOR THEOREM XIII

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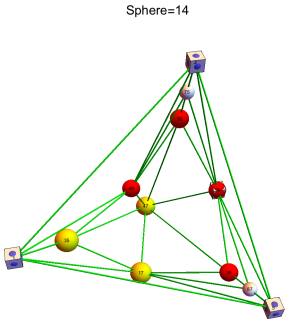
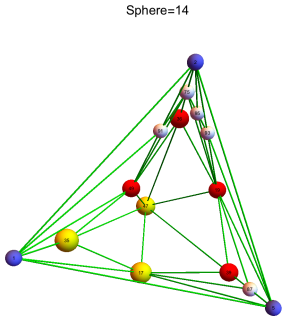
Abstract. Sphere pictures before and after subdivision. The original graph G is blue. It is cobordant to its stellated dual $\hat{G}$ (seen in red with shaded triangles after rendered Eulerian). The cleaned vertices x (for which $S(x)$ is Eulerian already) are yellow. Cubes indicate odd degree vertices corresponding to odd degree edges in the big ball B whose boundary is G. We need to get rid of all of them. We do that by cutting along the dual sphere graph without cutting sane edges, nor cutting edges in G. We work on a complete deterministic implementation of the later.

Date: March 20, 2015, part of public research diary. Possibly and likely to be buggy.

1991 *Mathematics Subject Classification.* Primary: 05C15, 05C10, 57M15 .

Key words and phrases. Chromatic graph theory, Geometric coloring.


Sphere=14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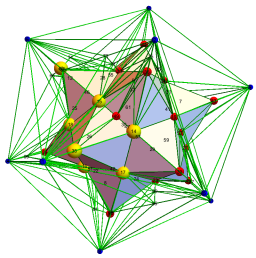
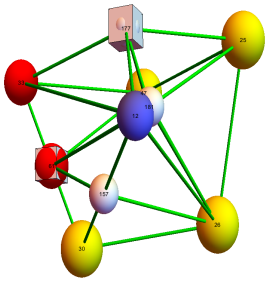


Here is a sphere, first before subdivision, then after, where it is Eulerian.

Sphere=46



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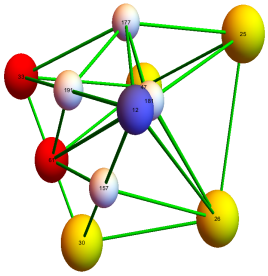
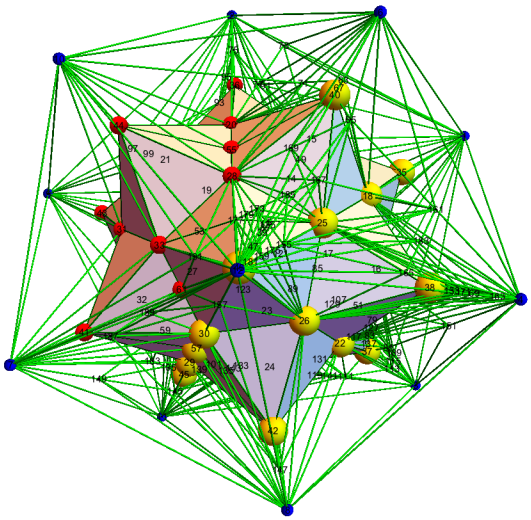
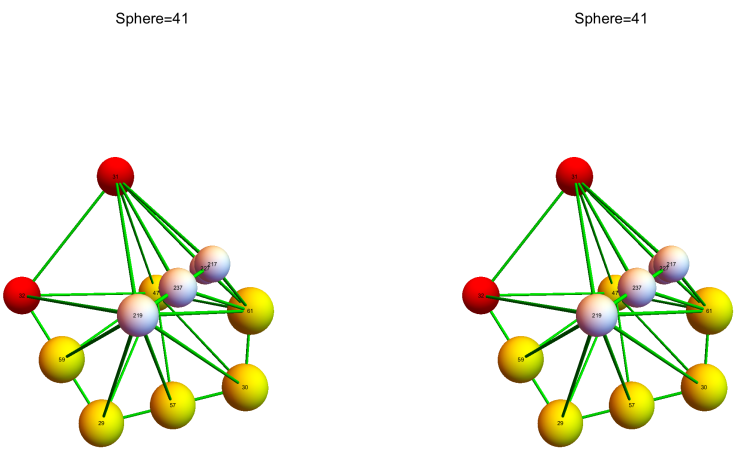
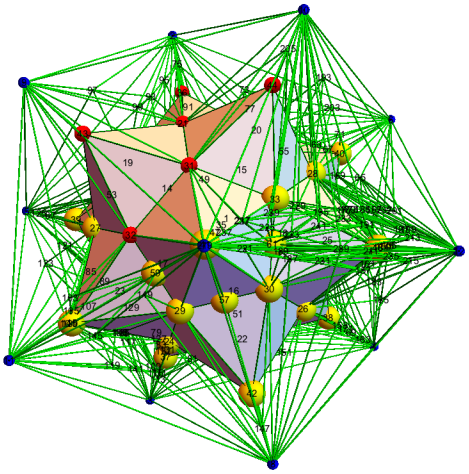
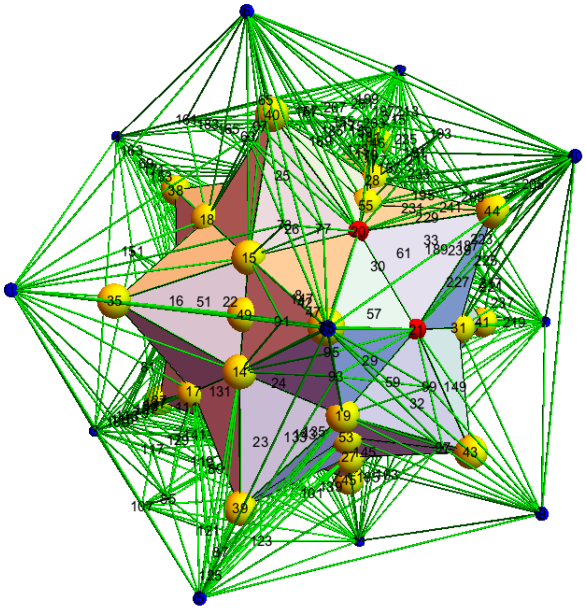








This sphere is part of the following situation (almost all cleaned out yet):



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