

## **The spheres of Sol**

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The spheres of Sol, the 3-dimensional solvable Lie group, have always been mysterious.

I'll explain recent joint work with Matei Coiculescu, a student at Brown, in which we exactly characterize the cut locus of the identity of Sol in terms of Gauss's arithmetic-geometric mean. As a consequence we show that the metric spheres in Sol are all topological spheres, smooth away from 4 planar arcs. The talk will have many computer demos.