1176-52-87   **Alexey Glazyrin*** (`alexey.glazyrin@utrgv.edu`), One West University Blvd, BLHSB 2.520, Brownsville, TX 78520, and **Igor Pak** (`pak@math.ucla.edu`). *Domes over curves.*

A closed polygonal curve is called integral if it is composed of unit segments. Kenyon's problem asks whether for every integral curve, there is a dome over this curve, i.e. whether the curve is a boundary of a polyhedral surface whose faces are equilateral triangles with unit edge lengths. In this talk, we will give a necessary algebraic condition when the curve is a quadrilateral, thus giving a negative solution to Kenyon's problem in full generality. We will then explain why domes exist over a dense set of integral curves and give an explicit construction of domes over all regular polygons. Finally, we will formulate several open questions related to the initial problem of Kenyon. (Received January 15, 2022)