

COVERING THE SPHERE BY EQUAL ZONES

Ferenc Fodor, Viktor Vígh, **Tamás Zarnócz**
University of Szeged, Hungary

A zone of half-width w on the unit sphere S^2 is a spherical segment of spherical width $2w$ that is symmetric to o . L. Fejes Tóth raised the question in [1]: what is the minimal w_n such that one can cover S^2 with n zones of width $2w_n$? This question can be considered as a spherical relative of the famous plank problem of Tarski. We prove lower bounds for the minimum width w_n for all n using arguments about the area of such zones and their intersections.

This is a joint work with Ferenc Fodor and Viktor Vígh (University of Szeged, Hungary)

- [1] LÁSZLÓ FEJES TÓTH, Über eine Abschätzung des kürzesten Abstandes zweier Punkte eines auf einer Kugelfläche liegenden Punktsystems, *Jber. Deutsch. Math. Verein.* **53** (1943), 66–68.