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Spherical folding tessellations by kites and isosceles triangles IV

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Abstract: The classification of the dihedral folding tessellations of the sphere and the plane whose prototiles are a kite and an equilateral triangle were obtained in [C. Avelino and A. Santos, Spherical and planar folding tessellations by kites and equilateral triangles, Australasian Journal of Combinatorics, 53 (2012), 109–125.]. Recently, this classification was extended to isosceles triangles so that the classification of spherical folding tesselations by kites and isosceles triangles in three cases of adjacency was presented in [C. Avelino and A. Santos, Spherical Folding Tessellations by Kites and Isosceles Triangles: a case of adjacency, Mathematical Communications, 19 (2014), 1–28.; C. Avelino and A. Santos, Spherical Folding Tessellations by Kites and Isosceles Triangles II, International Journal of Pure and Applied Mathematics, 85 (2013), 45–67.; C.Avelino and A.Santos, Spherical Folding Tessellations by Kites and Isosceles Triangles III, submitted.]. In this paper we finalize this classification presenting all the dihedral folding tessellations of the sphere by kites and isosceles triangles in the

remaining three cases of adjacency, that consists of five sporadic isolated tilings. A list containing these tilings including its combinatorial structure is presented at the end of this paper.

Keywords: Dihedral *f*-tilings, combinatorial properties, spherical trigonometry, symmetry groups.

Math. Subj. Class.: 52C20, 05B45, 52B05

Sferična tlakovanja z deltoidi in enakokrakimi trikotniki IV

Povzetek: Klasifikacija diedrskih tllakovanj sfere in ravnine, katerih osnovna gradnika sta deltoid in enakostraničen trikotnik je bila narejena v [C. Avelino and A. Santos, Spherical and planar folding tessellations by kites and equilateral triangles, Australasian Journal of Combinatorics, 53 (2012), 109–125.]. Nedavno je bila ta klasifikacija razširjena na enakokrake trikotnike, tako da je bila klasifikacija sferičnih tlakovanj z deltoidi in enakokrakimi trikotniki v treh primerih sosednosti predstavljena v [C. Avelino and A. Santos, Spherical Folding Tessellations by Kites and Isosceles Triangles: a case of adjacency, Mathematical Communi-cations, 19 (2014), 1–28.; C. Avelino and A. Santos, Spherical Folding Tessellations by Kites and Isosceles Triangles II, International Journal of Pure and Applied Mathematics, 85 (2013), 45–67.; C.Avelino and A.Santos, Spherical Folding Tessellations by Kites and Isosceles Triangles III, submitted.]. V tem članku dokončamo to klasifikacijo in predstavimo vsa diedrska tlakovanja sfere z deltoidi in enakokrakimi trikotniki v preostalih treh primerih sosednosti, ki sestoje iz petih dodatnih izoliranih tlakovanj. Seznam, ki vsebuje ta tlakovanja vključno z njihovo kombinatorično strukturo, je predstavljen na koncu članka.

Ključne besede: Diedrska *f*-tlakovanja, kombinatorične lastnosti, sferična trigonometrija, simetrijske grupe.