CELTIC PATTERNS ON A SPHERICAL SURFACE.

Taeko Ogawa (a) and Tohru Ogawa (b)

(a) Saitama Junior College,
(b) Institute of Applied Physics, University of Tsukuba

One of the authors (the latter) studied some extension of the concept of similarity to spherical surface and designed some fractal patterns on it.
The principle of the extension was based on the idea that the following property of Koch curve survives on a spherical surface. Explicitly, regarding Koch curve as based on a transformation from an isosceles to the similar isosceles, a tessellation of a spherical surface into congruent isosceles leads to a fractal tiling.
Now, we try another extension of the concept of similarity on a spherical surface, by studying what corresponds to the logarithmic spiral on a spherical surface. It leads to some Celtic patterns on a spherical surface.