1159-51-173 **Alvaro Pampano***, alvaro.pampano@ehu.eus. *Construction of Rotational Constant Skew Curvature Surfaces in Space Forms.*

We introduce and study the exponential type curvature energy

$$\mathbf{\Theta}_\mu(\gamma) = \int_\gamma e^{\mu\kappa}$$

acting on curves immersed in 2-space forms $M^2(\rho)$. Here, κ denotes the curvature of the curve γ and the energy parameter μ is a constant.

Using a technique involving Killing vector fields along curves and the binormal evolution procedure, we construct rotational surfaces in 3-space forms $M^3(\rho)$ whose profile curves are critical for $\mathbf{\Theta}_\mu$.

It turns out that these binormal evolution surfaces have constant skew curvature, i.e. their principal curvatures satisfy a relation

$$\kappa_1 = \kappa_2 + c\,,$$

where c is a constant related with the energy parameter μ.

Conversely, any rotational surface with constant skew curvature in $M^3(\rho)$ can be locally described as a binormal evolution surface with prescribed velocity and, as a consequence, their profile curves are critical for $\mathbf{\Theta}_\mu$. (Received August 04, 2020)