

# Kuen surface

## 1 Abstract

The Kuen surface is a special case of Enneper's negative curvature surfaces. The Gaussian curvature of the Kuen surface is a constant  $-1$ .

## 2 Definition

It is given parametrically by

$$\begin{aligned}x &= \frac{2(\cos u + u \sin u) \sin v}{1 + u^2 \sin^2 v} \\y &= \frac{2(\sin u - u \cos u) \sin v}{1 + u^2 \sin^2 v} \\z &= \ln[\tan(v/2)] + \frac{2 \cos v}{1 + u^2 \sin^2 v}\end{aligned}$$

## References

- [1] <http://mathworld.wolfram.com/KuenSurface.html>