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Section:

5. Differential Geometry and Global Analysis

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On a class of hexagonal-surface-web of spheres

In this work, we consider four one-parameter families of spheres which do not belong to the same bundle with the additional condition that the three families of spheres cut the spheres of the fourth family in a hexagonal three-web formed by the three families of curves defined by the equations

$$x^2 + y^2 - a^2 - u_1.y = 0, \quad x^2 + y^2 - u_2 = 0, \quad y - u_3.x = 0, \quad (a \in R, a \neq 0).$$

Then, we determine these four families of spheres so that they form a surface 6-web.

Reference: H. I. Erdogan, Triples of circle-pencils forming a hexagonal three-web in E^2, *Journal of Geometry* **35** (1989), 39-65.