Malakhovskiĭ, V. S.; Yurova, E. P.
Congruences of quadrics in three-dimensional projective space associated with pair of surfaces. (Russian. English summary) [Zbl 1337.53019]

Summary: Two-parametric families (congruences) $K_2$ of quadrics $Q$ in three-dimensional projective space $P_3$ are investigated, possessing the following properties: On each quadric $Q \in K_2$ there are two different focal points $A_1$ and $A_2$ at which the local tangents intersect at one point $A_0$ and are the asymptotic tangents of the surface $(A_0)$. The tangents to the curves on the surface $(A_i)$ that corresponds the focal curves on the surface $(A_j) \ (i, j, k = 1, 2; i \neq j)$ also intersect at one point $A_3$ and are the asymptotic tangents of the surface $(A_3)$. Moreover, the asymptotic curves that envelop $A_0A_i$ and $A_3A_j$ correspond, and $A_0$ and $A_3$ are polar conjugated.

MSC:
53A20 Projective differential geometry
53A40 Other special differential geometries
58A17 Pfaffian systems

Keywords:

focal points; asymptotic tangents