

Infinitesimal periodic deformations and quadrics

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We describe a correspondence between the infinitesimal deformations of a framework and a periodic pattern (arrangement) of quadrics. Planar frameworks produce periodic arrangements of conics, in particular periodic circle patterns.

Of particular interest is the case of homothetic ellipsoids, which provides a tool for recognizing frameworks with auxetic periodic deformations.

This is joint work with Ciprian Borcea.