

Circle actions on the 7-sphere with unbounded periods and non-linearizable multicentres

mardi 30 septembre 2014 11:30 (1 heure)

We give an example of a free circle action on the 7-dimensional sphere whose orbits have unbounded lengths (equivalently: unbounded periods). As an application we construct a smooth vector field X in a neighbourhood U of the origin in the 8-dimensional real space such that : $U - \{0\}$ is foliated by closed integral curves, the differential $DX(0)$ generate a 1-parametric group of rotations, but X is not orbitally equivalent to its linearization at the origin, hence proving that Poincaré's Centre Theorem, true for planar non-degenerate centers is not generalizable in 8 dimensions.

Orateur: VILLARINI, Massimo (Modena)