

1073-51-9

Rafal Komendarczyk* (rafkom@gmail.com), 6823 St. Charles Ave, New Orleans, LA 70118.

Higher order helicities via link maps.

I will present a perspective on asymptotic higher linking numbers, which exploits homotopy invariants of maps associated to n -component links into configuration spaces. As a particular application, I will show how this approach leads to a lower bound for the L^2 -energy of a volume preserving vector field on domains with the third order linkage present but no 2nd order linkage. This result can be considered as an extension of the classical energy bound by V.I. Arnold which is relevant for domains with the 2nd order linkage. (Received May 30, 2011)