QUASICLASSICAL DA RIOS SYSTEM AND GRADIENT CATASTROPHE FOR VORTEX FILAMENT MOTION

B. Konopelchenko

Department of Physics University of Salento 73100 Lecce, Italy konopel@le.infn.it

Quasiclassical Da Rios (or dispersionless focusing NLS system) describe motion of vortex filament with slow varying curvature and torsion. It is shown that the points of gradient catastrophe for this system correspond to the fluttering points of filament at which the local behaviour of the corresponding curve is drastically different from that of normal points. Concrete examples of such behaviour are discussed.