



Collisions between counter-rotating solitary vortices in the three-dimensional Ginzburg-Landau equation

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Résumé en anglais We report results of collisions between coaxial vortex solitons with topological charges $\pm S$ in the complex cubic-quintic Ginzburg-Landau equation. With the increase of the collision momentum, merger of the vortices into one or two dipole or quadrupole clusters of fundamental solitons (for $S=1$ and 2 , respectively) is followed by the appearance of pairs of counter-rotating “unfinished vortices,” in combination with a soliton cluster or without it. Finally, the collisions become elastic. The clusters generated by the collisions are very robust, while the “unfinished vortices,” eventually split into soliton pairs.

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