

## Helicity in dispersive continuum mechanics

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New conservation laws are obtained for the equations of dispersive continuum mechanics describing Euler–van der Waals–Korteweg’s fluids, fluids containing small gas bubbles, and long–free surface gravity waves (Serre–Green–Naghdi equations). The corresponding mathematical models are characterized by the dependence of the energy on spatial and temporal derivatives of the density. In particular, analogs of helicity invariants are deduced.

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