

Weakly interacting superfluid in a toroidal trap

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We study persistent flow of a weakly interacting Bose-Einstein condensate in a toroidal trap. Specific topics include stability of superfluid flow, and schemes to excite a persistent current. Current experimental alkali condensates are weakly interacting, clean, highly controllable mesoscopic systems. Correspondingly, we emphasize the view that superfluidity may be studied theoretically using elementary microscopic methods.