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Kapitza Pendulum Effect in Weakly Disordered Continuously Degenerate Magnetic Materials[1] IGOR FOMIN, P.L. Kapitza Institute for Physical Problems, RAS — Limitation of general Larkin-Imry-Ma mechanism of disruption of a long-range order by a weak disorder is discussed. It is shown, that the long-range order can be preserved if not all components of the continuously degenerate order parameter are coupled to the relevant random field. The order parameter in that case has a freedom to adjust to disorder so that the disrupting effect of the disorder is excluded. For a weak disorder energy gain due to the adjustment is greater then the gain at the disruption. The mechanism of adjustment is analogous to that, known for a mechanical pendulum with the vibrating point of suspension (Kapitza pendulum). Physically relevant examples of 3D ferromagnet with a 2D random anisotropy and superfluid ^{3}He in aerogel are considered.

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