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**Faraday patterns in interference experiments with one dimensional gases of ultracold atoms** SUSANNE PIELAWA, VLADIMIR GRITSEV, EUGENE DEMLER, Harvard University — We analyze a quantum analogue of the Faraday instability in one dimensional ultracold gases. Temporal periodic modulation of the interaction strength parametrically excites collective modes and gives rise to standing wave patterns in interference experiments. We discuss both bosonic and fermionic systems and demonstrate that such experiments can be used to probe spin charge separation.

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