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Title: Multiple Light Fields at Critical Coupling

Abstract: I will speak about light fields at the condition of critical coupling, with an emphasis on the design of optical systems, where multiple modes satisfy this condition in parallel. As we have shown in recent collaborations with experimental teams, such systems show unique behaviour, such as degenerate perfect absorption [1], as well as perfect transmission of arbitrary coherent wavefronts even across disordered media [2].

References:

1. Y. Slobodkin, G. Weinberg, H. Hörner, K. Pichler, S. Rotter, and O. Katz, *Science* 377, 995 (2022).
2. M. Horodynski, M. Kühmayer, C. Ferise, S. Rotter, and M. Davy, *Nature* 607, 281 (2022).