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Observable entanglement measures¹ FLORIAN MINTERT, Harvard University, STEPHEN WALBURN, PAULO SOUTO RIBEIRO, LUIZ DAVI-DOVICH, Universidade Federal do Rio de Janeiro, ANDREAS BUCHLEITNER, Max Planck Institute for the Physics of Complex Systems — We discuss the entanglement measure *concurrence* as an experimentally accessible quantity. In contrast to the original definition, the present is based only on physical observables. Therefore, concurrence can experimentally be measured without state reconstruction via quantum state tomography. The non-linearity necessary for any entanglement measure can be provided by measurements on two copies of the system states.

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