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Sommario/riassunto	This thesis proposes a novel measure of quantum entanglement that can be used to characterize the degree of entanglement of three (or more) parties. Entanglement has been studied and used in many ways since Erwin Schrödinger defined and named it in 1935, but quantifiable measures of the degree of entanglement, known as concurrence, have long been limited to two quantum parties (two qubits, for example). Three-qubit states, which are known to be more reliable for

teleportation of qubits than two-party entanglement, run into difficult criteria in entanglement-measure theory, and efforts to quantify a measure of genuine multipartite entanglement (GME) for three-qubit states have frustrated quantum theorists for decades. This work explores a novel triangle inequality among three-qubit concurrences and demonstrates that the area of a 3-qubit concurrence triangle provides the first measure of GME for 3-qubit systems. The proposed measure, denoted “entropic fill,” has an intuitive interpretation related to the hypervolume of a simplex describing the relation between any subpart of the system with the rest. Importantly, entropic fill not only gives the first successful measure of GME for 3-party quantum systems, but also can be generalized into higher dimensions, providing a path to quantify quantum entanglement among many parties.