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Justin Lynd* (jlynd@math.rutgers.edu). *The Thompson transfer lemma for fusion systems.*

The transfer map in finite group theory is a classical tool for identifying abelian quotients. The case of transfer from a Sylow p -subgroup S of a finite group G is completely determined by p -fusion in S (i.e. the G -conjugacy of subgroups in S) via the focal subgroup theorem. A saturated fusion system \mathcal{F} is a category with objects the subgroups of a fixed finite p -group S , and with morphisms which serve to model the p -fusion in a finite group with Sylow p -subgroup S . Although the structure theory of fusion systems parallels that of finite groups, the construction of the transfer map in fusion systems is delicate and depends on the existence of a certain S - S biset associated to the fusion system \mathcal{F} .

The Classification of Finite Simple Groups makes use of transfer primarily in two forms: Yoshida's transfer theorem and the Thompson transfer lemma. This talk will be an account of a generalization of the latter result and its extensions by Harada, Goldschmidt, and Lyons over the years, proved in the setting of saturated fusion systems. This generalization is a key ingredient in the speaker's Ph.D. thesis, where certain fusion systems (at the prime 2) containing an involution centralizer of a specified type are classified. (Received September 02, 2012)