

ABSTRACT. In 1989, Vaughan Jones introduced spin models and showed that they could be used to form link invariants in two different ways—by constructing representations of the braid group, or by constructing partition functions. These spin models were subsequently generalized to so-called 4-weight spin models by Bannai and Bannai; these could be used to construct partition functions, but did not lead to braid group representations in any obvious way. Jaeger showed that spin models were intimately related to certain association schemes. Yamada gave a construction of a symmetric spin model on $4n$ vertices from each 4-weight spin model on n vertices.

In this paper we build on recent work with Munemasa to give a different proof to Yamada's result, and we analyse the structure of the association scheme attached to this spin model.