1142-20-208 **Alex W Nowak*** (anowak@iastate.edu). *Quasigroup modules and extensions of Mendelsohn triple systems.* Preliminary report.

In the representation theory of quasigroups, modules arise as representations of the quotient of an integral group ring. The nature of this ring depends on the (universal algebraic) variety in which the quasigroup is situated. Of interest to us is the variety of Mendelsohn quasigroups, denoted **MTS** and specified by the identities $(yx)y = x$ (semisymmetry) and $x^2 = x$ (idempotence). These quasigroups offer algebraic descriptions of a class of balanced incomplete block designs known as Mendelsohn triple systems. The ring of representation for a Mendelsohn quasigroup factorizes as a coproduct of rings, and it does so in a manner that reflects the geometry of the corresponding block design. After describing these rings, we present results on extensions of Mendelsohn quasigroups in the module-theoretic context. (Received September 04, 2018)