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André Kündgen* (akundgen@csusm.edu), Department of Mathematics, California State University San Marcos, 333 S Twin Oaks Valley Road, San Marcos, 92096, **Sebastian Cioabă**, University of Delaware, and **Craig Timmons**, University of California San Diego. *Covering complete r -graphs with complete r -partite r -graphs.*

An r -cut of the complete r -uniform hypergraph K_n^r is obtained by partitioning its vertex set into r parts and taking all edges that meet every part in exactly one vertex. In other words it is the edge set of a spanning complete r -partite subhypergraph of K_n^r . An r -cut cover is a collection of r -cuts so that each edge of K_n^r is in at least one of the cuts.

While in the graph case $r = 2$ any 2-cut cover will on average cover each edge at least $2 - o(1)$ times, when r is odd we exhibit an r -cut cover in which each edge is covered exactly once. When r is even no such decomposition can exist, but we can bound the average number of times an edge is cut in an r -cut cover strictly between 1 and 2. (Received February 16, 2010)