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*Regular self-complementary uniform hypergraphs*

A  $k$ -uniform hypergraph  $(V, E)$  is said to be *self-complementary* if it is isomorphic to its complement  $(V, V^{(k)} - E)$ , and  *$t$ -subset-regular* if every  $t$ -subset of  $V$  lies in the same number of edges. In this talk, we discuss necessary and sufficient conditions on  $n$ ,  $k$ , and  $t$  for there to exist a  $t$ -subset-regular self-complementary  $k$ -uniform hypergraph of order  $n$ .