

# ON THE WEAKLY POLYMATROIDAL PROPERTY OF THE EDGE IDEALS

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ABSTRACT. A theorem due to Fröberg states that a simple graph is chordal if and only if the edge ideal of its complementary graph has a linear resolution. Actually, this is a characterization of the edge ideals of 2-uniform hypergraphs which have a linear resolution. In this talk, edge ideals of some classes of  $d$ -uniform hypergraphs is investigated. It is shown that if a  $d$ -uniform hypergraph is chordal then the edge ideal of its complementary hypergraph is weakly polymatroidal. Also, it is proved that all powers of the edge ideal of a Ferrers hypergraph are weakly polymatroidal. Finally, we investigate the edge ideals of complete admissible uniform hypergraphs.