Cliquies in sparse hypergraphs

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A partial Steiner \((k, \ell)\)-system is \(k\)-uniform hypergraph \(G\) with the property that every \(\ell\)-element subset of \(V\) is contained in at most one edge of \(G\). In this talk we show that for given \(k, \ell\) and \(t\) there exists a partial Steiner \((k, \ell)\)-system such that whenever an \(\ell\)-element subset from every edge is chosen, the resulting \(\ell\)-uniform hypergraph contains a clique of size \(t\).

This is joint work with František Franěk and Vojtěch Rödl.