

\*\*\*\*\*  
\* Princeton Discrete Math Seminar \*  
\*\*\*\*\*

Date: Wednesday, February 2, 2:15 in Fine Hall 224

**Asaf Shapira**

**Tel Aviv University**

**On an Extremal Hypergraph Problem of Brown,  
Erdős and Sós**

**Abstract**

Let  $f_r(n, v, e)$  denote the maximum number of edges in an  $r$ -uniform hypergraph on  $n$  vertices, which does not contain  $e$  edges spanned by  $v$  vertices. Extending previous results of Ruzsa and Szemerédi and of Erdős, Frankl and Rödl, we partially resolve a problem raised by Brown, Erdős and Sós in 1973, by showing that for any fixed  $2 \leq k < r$ , we have

$$n^{k-o(1)} < f_r(n, 3(r-k) + k + 1, 3) = o(n^k).$$

Joint work with Noga Alon.