

## **Various types of phase transitions in extremal graph theory**

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Phase transition in the fields we are considering here means that we slowly increase the number of edges of a graph (in some setting) and suddenly some surprising structural changes happen in the considered graphs. The most natural phase transitions to observe are considered in the theory of random graphs (actually this is one of the most important research area in this topic). Beside this there are several other phase transition phenomena, e.g., in extremal graph theory (i.e. in the theory of supersaturated extremal graph problems) and in the theory of Ramsey-Tur'an graph problems.

I will survey several related results in these fields.