

**Zbl 569.05023**

**Brown, William G.; Erdős, Paul; Simonovits, M.**

*Inverse extremal digraph problems.* (In English)

**Finite and infinite sets, 6th Hung. Combin. Colloq., Eger/Hung. 1981, Vol. I, Colloq. Math. Soc. János Bolyai 37, 119-156 (1984).**

[For the entire collection see Zbl 559.00001.]

Authors' abstract: "The authors continue their study of extremal problems of Turán type for directed graphs with multiple edges, now permitting any finite non-negative integer multiplicity. Having proved earlier (for the case of multiplicity at most 1) that there exists, for any family of "sample" digraphs, a matrix which represents the structure of an "asymptotically extremal sequence" of digraphs (containing none of the sample digraphs, and having a total number of arcs asymptotic to the maximum), they address themselves to the inverse problem: is every matrix so realized for some finite family of sample digraphs? They prove that this is indeed true for "dense" matrices - having certain integer entries, and such that an associated quadratic form attains its maximum for the standard simplex uniquely at an interior point."

*G. Chaty*

Classification:

05C20 Directed graphs (digraphs)

05C35 Extremal problems (graph theory)

05C50 Graphs and matrices

Keywords:

extremal digraphs; Turán problem